

=> d his

(FILE 'HOME' ENTERED AT 16:46:30 ON 03 SEP 2003)

FILE 'REGISTRY' ENTERED AT 16:46:57 ON 03 SEP 2003

E ASPARTYL?

E ASPARTYLPHENYL?

L1 17 S E6

INDEX 'ADISCTI, ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, AQUASCI, BIOBUSINESS, BIOCOMMERCE, BIOSIS, BIOTECHABS, BIOTECHDS, BIOTECHNO, CABA, CANCERLIT, CAPLUS, CEABA-VTB, CEN, CIN, CONFSCI, CROPB, CROPU, DDFB, DDFU, DGENE, DRUGB, DRUGLAUNCH, DRUGMONOG2, ...' ENTERED AT 17:00:47 ON 03 SEP 2003

SEA (13433-09-5 OR ASPARTYLPHENYL?) AND (SYNTHETAS? OR SYNTHAS?)

-----  
2 FILE CAPLUS

1 FILE DDFB

1 FILE DRUGB

L2 QUE (13433-09-5 OR ASPARTYLPHENYL?) AND (SYNTHETAS? OR SYNTHAS?)

-----  
SEA (DIPEPTID? OR PEPTID?) (S) (SYNTHETAS? OR SYNTHAS?)

-----  
13 FILE ADISCTI

11 FILE ADISINSIGHT

3 FILE ADISNEWS

331 FILE AGRICOLA

12 FILE ANABSTR

54 FILE AQUASCI

49 FILE BIOBUSINESS

15 FILE BIOCOMMERCE

4116 FILE BIOSIS

505 FILE BIOTECHABS

505 FILE BIOTECHDS

1865 FILE BIOTECHNO

571 FILE CABA

606 FILE CANCERLIT

2949 FILE CAPLUS

52 FILE CEABA-VTB

4 FILE CEN

7 FILE CIN

30 FILE CONFSCI

14 FILE CROPB

14 FILE CROPU

44 FILE DDFB

151 FILE DDFU

4682 FILE DGENE

44 FILE DRUGB

4 FILE DRUGNL

231 FILE DRUGU

5 FILE DRUGUPDATES

62 FILE EMBAL

3252 FILE EMBASE

2198 FILE ESBIOBASE

245\* FILE FEDRIP

16 FILE FROSTI

58 FILE FSTA

1265 FILE GENBANK

233 FILE IFIPAT

380 FILE JICST-EPLUS

3 FILE KOSMET

1503 FILE LIFESCI

3019 FILE MEDLINE

2 FILE NIOSHTIC

17 FILE NTIS

6 FILE OCEAN

1247 FILE PASCAL

3 FILE PHAR

1 FILE PHIC

12 FILE PHIN  
34 FILE PROMT  
3218 FILE SCISEARCH  
1 FILE SYNTHLINE  
1027 FILE TOXCENTER  
2134 FILE USPATFULL  
56 FILE USPAT2  
5 FILE VETU  
361 FILE WPIDS  
361 FILE WPINDEX  
7 FILE IPA  
6 FILE NAPRALERT  
37 FILE NLDB  
L3 QUE (DIPEPTID? OR PEPTID?) (S) (SYNTHETAS? OR SYNTHAS?)  
-----

SEA (DIPEPTID? OR PEPTID?) (S) (SYNTHETAS? OR SYNTHAS?) AND (AS  
-----

1 FILE ADISCTI  
1 FILE ADISINSIGHT  
13 FILE AGRICOLA  
3 FILE AQUASCI  
10 FILE BIOBUSINESS  
219 FILE BIOSIS  
41 FILE BIOTECHABS  
41 FILE BIOTECHDHS  
113 FILE BIOTECHNO  
18 FILE CABA  
19 FILE CANCERLIT  
214 FILE CAPLUS  
2 FILE CEABA-VTB  
1 FILE CEN  
1 FILE CIN  
1 FILE CONFSCI  
1 FILE CROPB  
1 FILE CROPU  
3 FILE DDFB  
3 FILE DDFU  
65 FILE DGENE  
3 FILE DRUGB  
11 FILE DRUGU  
3 FILE EMBAL  
206 FILE EMBASE  
86 FILE ESBIOBASE  
11\* FILE FEDRIP  
1 FILE FROSTI  
4 FILE FSTA  
437 FILE GENBANK  
34 FILE IFIPAT  
13 FILE JICST-EPLUS  
102 FILE LIFESCI  
171 FILE MEDLINE  
1 FILE NTIS  
47 FILE PASCAL  
1 FILE PHIN  
1 FILE PROMT  
150 FILE SCISEARCH  
64 FILE TOXCENTER  
1132 FILE USPATFULL  
36 FILE USPAT2  
27 FILE WPIDS  
27 FILE WPINDEX  
1 FILE NLDB  
L4 QUE (DIPEPTID? OR PEPTID?) (S) (SYNTHETAS? OR SYNTHAS?) AND (AS  
-----

FILE 'USPATFULL, GENBANK, BIOSIS, CAPLUS, EMBASE, MEDLINE, SCISEARCH,  
BIOTECHNO, LIFESCI, ESBIOBASE, DGENE, WPIDS, DRUGB' ENTERED AT 17:08:19  
ON 03 SEP 2003

L5 2925 S (DIPEPTID? OR PEPTID?) (S) (SYNTHETAS? OR SYNTHAS?) AND (ASPA

L6 3 S (13433-09-5 OR ASPARTYLPHENYL?) AND (SYNTHETAS? OR SYNTHAS?)  
L7 1223 S L5 AND RIBOSOM?  
L8 512 S L7 AND ADENYL?  
L9 223 S L8 AND THIOL?  
L10 75 S L9 AND THIOESTERAS?  
L11 74 DUP REM L10 (1 DUPLICATE REMOVED)

Welcome to STN International! Enter x:x

LOGINID: ssspta1652dmr

**PASSWORD:**

TERMINAL (ENTER 1, 2, 3, OR ?):2

NEWS 1 Web Page URLs for STN Seminar Schedule - N. America  
NEWS 2 "Ask CAS" for self-help around the clock  
NEWS 3 Feb 24 PCTGEN now available on STN  
NEWS 4 Feb 24 TEMA now available on STN  
NEWS 5 Feb 26 NTIS now allows simultaneous left and right truncation  
NEWS 6 Feb 26 PCTFULL now contains images  
NEWS 7 Mar 04 SDI PACKAGE for monthly delivery of multifile SDI results  
NEWS 8 Mar 24 PATDPAFULL now available on STN  
NEWS 9 Mar 24 Additional information for trade-named substances without structures available in REGISTRY  
NEWS 10 Apr 11 Display formats in DGENE enhanced  
NEWS 11 Apr 14 MEDLINE Reload  
NEWS 12 Apr 17 Polymer searching in REGISTRY enhanced  
NEWS 13 AUG 22 Indexing from 1927 to 1936 added to records in CA/CAPLUS  
NEWS 14 Apr 21 New current-awareness alert (SDI) frequency in WPIDS/WPINDEX/WPIX  
NEWS 15 Apr 28 RDISCLOSURE now available on STN  
NEWS 16 May 05 Pharmacokinetic information and systematic chemical names added to PHAR  
NEWS 17 May 15 MEDLINE file segment of TOXCENTER reloaded  
NEWS 18 May 15 Supporter information for ENCOMPPAT and ENCOMPLIT updated  
NEWS 19 May 19 Simultaneous left and right truncation added to WSCA  
NEWS 20 May 19 RAPRA enhanced with new search field, simultaneous left and right truncation  
NEWS 21 Jun 06 Simultaneous left and right truncation added to CBNB  
NEWS 22 Jun 06 PASCAL enhanced with additional data  
NEWS 23 Jun 20 2003 edition of the FSTA Thesaurus is now available  
NEWS 24 Jun 25 HSDB has been reloaded  
NEWS 25 Jul 16 Data from 1960-1976 added to RDISCLOSURE  
NEWS 26 Jul 21 Identification of STN records implemented  
NEWS 27 Jul 21 Polymer class term count added to REGISTRY  
NEWS 28 Jul 22 INPADOC: Basic index (/BI) enhanced; Simultaneous Left and Right Truncation available  
NEWS 29 AUG 05 New pricing for EUROPATFULL and PCTFULL effective August 1, 2003  
NEWS 30 AUG 13 Field Availability (/FA) field enhanced in BEILSTEIN  
NEWS 31 AUG 15 PATDPAFULL: one FREE connect hour, per account, in September 2003  
NEWS 32 AUG 15 PCTGEN: one FREE connect hour, per account, in September 2003  
NEWS 33 AUG 15 RDISCLOSURE: one FREE connect hour, per account, in September 2003  
NEWS 34 AUG 15 TEMA: one FREE connect hour, per account, in September 2003  
NEWS 35 AUG 18 Data available for download as a PDF in RDISCLOSURE  
NEWS 36 AUG 18 Simultaneous left and right truncation added to PASCAL  
NEWS 37 AUG 18 FROSTI and KOSMET enhanced with Simultaneous Left and Right Truncation  
NEWS 38 AUG 18 Simultaneous left and right truncation added to ANABSTR  
NEWS EXPRESS April 4 CURRENT WINDOWS VERSION IS V6.01a, CURRENT  
MACINTOSH VERSION IS V6.0b(ENG) AND V6.0Jb(JP),

NEWS HOURS AND CURRENT DISCOVER FILE IS DATED 01 APRIL 2003  
NEWS INTER STN Operating Hours Plus Help Desk Availability  
NEWS LOGIN General Internet Information  
NEWS PHONE Welcome Banner and News Items  
NEWS WWW Direct Dial and Telecommunication Network Access to STN  
CAS World Wide Web Site (general information)

Enter NEWS followed by the item number or name to see news on that specific topic.

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FILE 'HOME' ENTERED AT 16:46:30 ON 03 SEP 2003

=> file registry  
COST IN U.S. DOLLARS

	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.21	0.21

FILE 'REGISTRY' ENTERED AT 16:46:57 ON 03 SEP 2003  
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.  
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.  
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Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 1 SEP 2003 HIGHEST RN 577691-42-0  
DICTIONARY FILE UPDATES: 1 SEP 2003 HIGHEST RN 577691-42-0

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2003

Please note that search-term pricing does apply when conducting Smart SELECT searches.

Crossover limits have been increased. See **HELP CROSSOVER** for details.

Experimental and calculated property data are now available. See HELP PROPERTIES for more information. See STNote 27, Searching Properties in the CAS Registry File, for complete details:  
<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

```
=> e aspartyl?
E1          1      ASPARTYL1/BI
E2          1      ASPARTYL3/BI
E3          0  --> ASPARTYL?/BI
E4          1      ASPARTYLACETYL/BI
E5          1      ASPARTYLACETYLGLUCOS/BI
E6          1      ASPARTYLACETYLGLUCOSAMINID/BI
E7          1      ASPARTYLACETYLGLUCOSAMINIDASE/BI
E8          1      ASPARTYLADENYL/BI
E9          1      ASPARTYLADENYLATE/BI
E10         2      ASPARTYLADENYLIC/BI
E11         14     ASPARTYLALAN/BI
E12         4      ASPARTYLALANINE/BI
```

=> e aspartylphenyl?  
E1 29 ASPARTYLPEPTIDE/B1  
E2 338 ASPARTYLPHENYL/B1

E3 0 --> ASPARTYLPHENYL?/BI  
 E4 12 ASPARTYLPHENYLALAN/BI  
 E5 1 ASPARTYLPHENYLALANATE/BI  
 E6 17 ASPARTYLPHENYLALANINE/BI  
 E7 11 ASPARTYLPHENYLALANYL/BI  
 E8 1 ASPARTYLPHENYLALANYLGLUT/BI  
 E9 1 ASPARTYLPHENYLALANYLGLUTAMIN/BI  
 E10 1 ASPARTYLPHENYLALANYLGLUTAMINYL/BI  
 E11 1 ASPARTYLPHENYLALANYLGLUTAMINYLASPART/BI  
 E12 1 ASPARTYLPHENYLALANYLGLUTAMINYLASPARTYL/BI

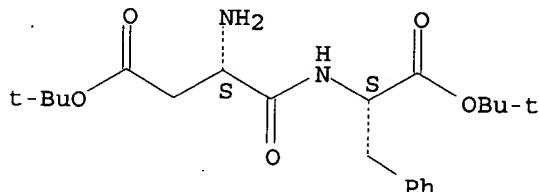
=> s e6

L1 17 ASPARTYLPHENYLALANINE/BI

=> d 1-17 11

L1 ANSWER 1 OF 17 REGISTRY COPYRIGHT 2003 ACS on STN  
 RN 131668-89-8 REGISTRY  
 CN L-Phenylalanine, L-.alpha.-aspartyl-, bis(1,1-dimethylethyl) ester (9CI)  
 (CA INDEX NAME)  
 OTHER CA INDEX NAMES:  
 CN L-Phenylalanine, N-L-.alpha.-aspartyl-, bis(1,1-dimethylethyl) ester  
 OTHER NAMES:  
 CN Aspartylphenylalanine di-tert-butyl ester  
 FS STEREOSEARCH  
 MF C21 H32 N2 O5  
 SR CA  
 LC STN Files: CA, CAPLUS, CASREACT, TOXCENTER, USPATFULL

Absolute stereochemistry.

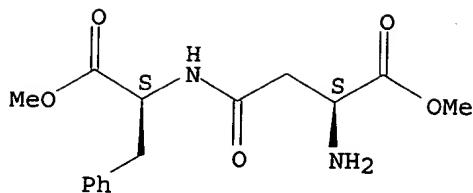


\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

9 REFERENCES IN FILE CA (1937 TO DATE)  
 9 REFERENCES IN FILE CAPLUS (1937 TO DATE)

L1 ANSWER 2 OF 17 REGISTRY COPYRIGHT 2003 ACS on STN  
 RN 121457-40-7 REGISTRY  
 CN L-Phenylalanine, N-L-.beta.-aspartyl-, dimethyl ester (9CI) (CA INDEX  
 NAME)  
 OTHER NAMES:  
 CN .beta.-Aspartylphenylalanine dimethyl ester  
 FS STEREOSEARCH  
 MF C15 H20 N2 O5  
 CI COM  
 SR CA  
 LC STN Files: CA, CAPLUS, CASREACT, USPATFULL

Absolute stereochemistry.

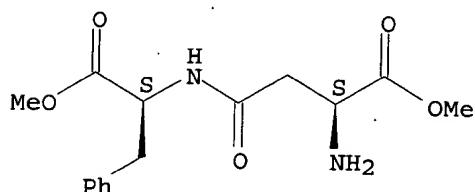


\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

3 REFERENCES IN FILE CA (1937 TO DATE)  
 3 REFERENCES IN FILE CAPLUS (1937 TO DATE)

L1 ANSWER 3 OF 17 REGISTRY COPYRIGHT 2003 ACS on STN  
 RN 108274-50-6 REGISTRY  
 CN L-Phenylalanine, N-L-.beta.-aspartyl-, dimethyl ester, monohydrochloride (9CI) (CA INDEX NAME)  
 OTHER NAMES:  
 CN .beta.-Aspartylphenylalanine dimethyl ester hydrochloride  
 FS STEREOSEARCH  
 MF C15 H20 N2 O5 . Cl H  
 SR CA  
 LC STN Files: CA, CAPLUS, USPATFULL  
 CRN (121457-40-7)

Absolute stereochemistry.



● HCl

3 REFERENCES IN FILE CA (1937 TO DATE)  
 3 REFERENCES IN FILE CAPLUS (1937 TO DATE)

L1 ANSWER 4 OF 17 REGISTRY COPYRIGHT 2003 ACS on STN  
 RN 105503-62-6 REGISTRY  
 CN Dipeptidase, aspartylphenylalanine (9CI) (CA INDEX NAME)  
 OTHER NAMES:  
 CN Asp-Phe hydrolase  
 CN Aspartylphenylalanine dipeptidase  
 CN L-Aspartyl-L-phenylalanine hydrolase  
 MF Unspecified  
 CI MAN  
 SR CA  
 LC STN Files: CA, CAPLUS

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

2 REFERENCES IN FILE CA (1937 TO DATE)  
 2 REFERENCES IN FILE CAPLUS (1937 TO DATE)

L1 ANSWER 5 OF 17 REGISTRY COPYRIGHT 2003 ACS on STN  
 RN 85412-56-2 REGISTRY  
 CN L-Phenylalanine, L-.alpha.-aspartyl-, dimethyl ester (9CI) (CA INDEX

NAME)

OTHER CA INDEX NAMES:

CN L-Phenylalanine, N-L-.alpha.-aspartyl-, dimethyl ester  
OTHER NAMES:

CN .alpha.-Aspartylphenylalanine dimethyl ester

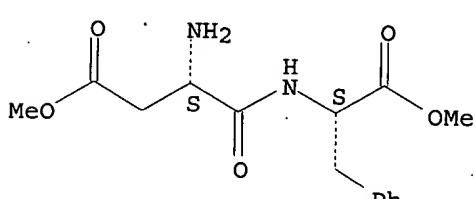
FS STEREOSEARCH

MF C15 H20 N2 O5

CI COM

LC STN Files: CA, CAPLUS, CASREACT, TOXCENTER, USPATFULL

Absolute stereochemistry.



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

19 REFERENCES IN FILE CA (1937 TO DATE)

19 REFERENCES IN FILE CAPLUS (1937 TO DATE)

L1 ANSWER 6 OF 17 REGISTRY COPYRIGHT 2003 ACS on STN  
RN 75214-12-9 REGISTRY

CN L-Phenylalanine, N-L-.alpha.-aspartyl-, dimethyl ester, monohydrochloride (9CI) (CA INDEX NAME)

OTHER NAMES:

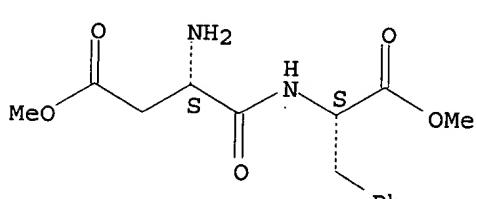
CN .alpha.-Aspartylphenylalanine dimethyl ester hydrochloride  
FS STEREOSEARCH

MF C15 H20 N2 O5 . Cl H

LC STN Files: CA, CAPLUS, CASREACT, CHEMCATS, CSCHEM, TOXCENTER, USPATFULL

CRN (85412-56-2)

Absolute stereochemistry.



● HCl

4 REFERENCES IN FILE CA (1937 TO DATE)

4 REFERENCES IN FILE CAPLUS (1937 TO DATE)

L1 ANSWER 7 OF 17 REGISTRY COPYRIGHT 2003 ACS on STN

RN 75214-10-7 REGISTRY

CN L-Phenylalanine, N-L-.alpha.-aspartyl-, monohydrochloride (9CI) (CA INDEX NAME)

OTHER NAMES:

CN Aspartylphenylalanine hydrochloride

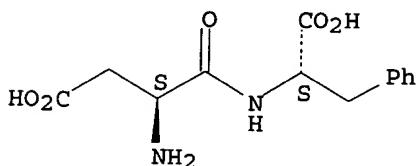
FS STEREOSEARCH

MF C13 H16 N2 O5 . Cl H

LC STN Files: CA, CAPLUS, CASREACT, TOXCENTER, USPATFULL

CRN (13433-09-5)

Absolute stereochemistry.

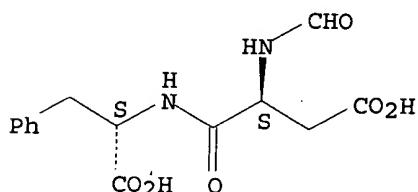


● HCl

3 REFERENCES IN FILE CA (1937 TO DATE)  
3 REFERENCES IN FILE CAPLUS (1937 TO DATE)

L1 ANSWER 8 OF 17 REGISTRY COPYRIGHT 2003 ACS on STN  
RN 56633-51-3 REGISTRY  
CN L-Phenylalanine, N-formyl-L-.alpha.-aspartyl- (9CI) (CA INDEX NAME)  
OTHER CA INDEX NAMES:  
CN L-Phenylalanine, N-(N-formyl-L-.alpha.-aspartyl)-  
OTHER NAMES:  
CN N-Formyl-.alpha.-aspartylphenylalanine  
CN N-Formyl-.alpha.-L-aspartyl-L-phenylalanine  
FS STEREOSEARCH  
MF C14 H16 N2 O6  
LC STN Files: CA, CAPLUS, CASREACT, CHEMLIST, IFICDB, IFIPAT, IFIUDB,  
USPATFULL  
Other Sources: EINECS\*\*  
(\*\*Enter CHEMLIST File for up-to-date regulatory information)

Absolute stereochemistry.

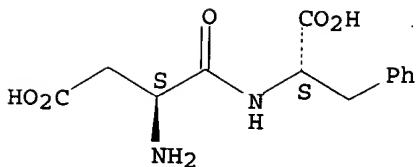


\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

31 REFERENCES IN FILE CA (1937 TO DATE)  
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
31 REFERENCES IN FILE CAPLUS (1937 TO DATE)

L1 ANSWER 9 OF 17 REGISTRY COPYRIGHT 2003 ACS on STN  
RN 52432-86-7 REGISTRY  
CN L-Phenylalanine, N-L-.alpha.-aspartyl-, monosodium salt (9CI) (CA INDEX NAME)  
OTHER NAMES:  
CN Sodium aspartylphenylalanine  
FS STEREOSEARCH  
MF C13 H16 N2 O5 . Na  
LC STN Files: CA, CAPLUS  
CRN (13433-09-5)

Absolute stereochemistry.

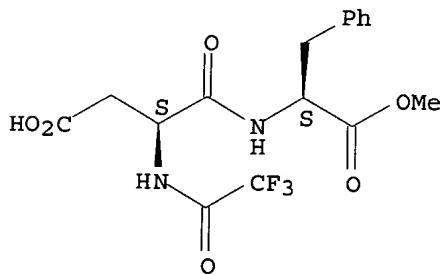


● Na

1 REFERENCES IN FILE CA (1937 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1937 TO DATE)

L1 ANSWER 10 OF 17 REGISTRY COPYRIGHT 2003 ACS on STN  
 RN 41567-20-8 REGISTRY  
 CN L-Phenylalanine, N-(trifluoroacetyl)-L-.alpha.-aspartyl-, 2-methyl ester  
 (9CI) (CA INDEX NAME)  
 OTHER CA INDEX NAMES:  
 CN L-Phenylalanine, N-[N-(trifluoroacetyl)-L-.alpha.-aspartyl]-, 1-methyl ester  
 OTHER NAMES:  
 CN N-Trifluoroacetyl-.alpha.-aspartylphenylalanine methyl ester  
 CN N-Trifluoroacetyl-.alpha.-L-aspartyl-L-phenylalanine methyl ester  
 CN N-Trifluoroacetyl-L-aspartyl-L-phenylalanine methyl ester  
 FS STEREOSEARCH  
 DR 51127-00-5  
 MF C16 H17 F3 N2 O6  
 CI COM  
 LC STN Files: BEILSTEIN\*, CA, CAPLUS, IFICDB, IFIPAT, IFIUDB, USPATFULL  
 (\*File contains numerically searchable property data)

Absolute stereochemistry.



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

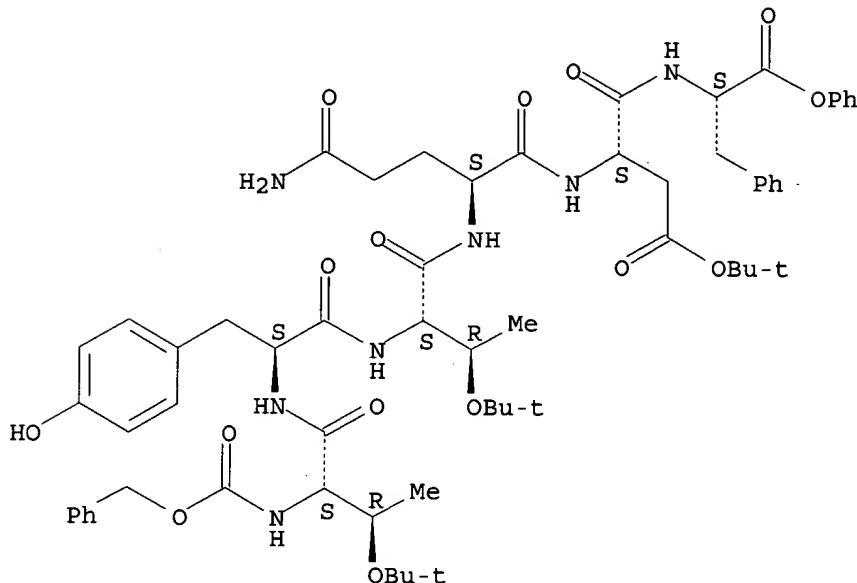
13 REFERENCES IN FILE CA (1937 TO DATE)  
 13 REFERENCES IN FILE CAPLUS (1937 TO DATE)

L1 ANSWER 11 OF 17 REGISTRY COPYRIGHT 2003 ACS on STN  
 RN 37784-03-5 REGISTRY  
 CN L-Phenylalanine, N-[N2-[O-(1,1-dimethylethyl)-N-[O-(1,1-dimethylethyl)-N-[(phenylmethoxy)carbonyl]-L-threonyl]-L-tyrosyl]-L-threonyl]-L-glutaminyl-L-.alpha.-aspartyl-, 4-(1,1-dimethylethyl) 1-phenyl ester (9CI) (CA INDEX NAME)  
 OTHER NAMES:  
 CN N-Benzylloxycarbonyl-O-tert-butyl-L-threonyl-L-tyrosyl-O-tert-butyl-L-threonyl-L-glutaminyl-.beta.-tert-butyl-L-aspartylphenylalanine phenyl ester  
 FS PROTEIN SEQUENCE; STEREOSEARCH  
 MF C61 H81 N7 O15

LC STN Files: CA, CAPLUS

\*\*RELATED SEQUENCES AVAILABLE WITH SEQLINK\*\*

Absolute stereochemistry.



1 REFERENCES IN FILE CA (1937 TO DATE)

1 REFERENCES IN FILE CAPLUS (1937 TO DATE)

L1 ANSWER 12 OF 17 REGISTRY COPYRIGHT 2003 ACS on STN  
RN 33605-76-4 REGISTRY

CN L-Phenylalanine, N-formyl-L-.alpha.-aspartyl-, 2-methyl ester (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN L-Phenylalanine, N-(N-formyl-L-.alpha.-aspartyl)-, 1-methyl ester

CN Succinamic acid, N-(.alpha.-carboxyphenethyl)-3-formamido-, monomethyl ester, stereoisomer (8CI)

OTHER NAMES:

CN Formylaspartame

CN N-Formyl-.alpha.-aspartylphenylalanine methyl ester

CN N-Formyl-.alpha.-L-aspartyl-L-phenylalanine methyl ester

CN N-Formyl-L-aspartyl-L-phenylalanine methyl ester

CN N-Formylaspartam

FS STEREOSEARCH

MF C15 H18 N2 O6

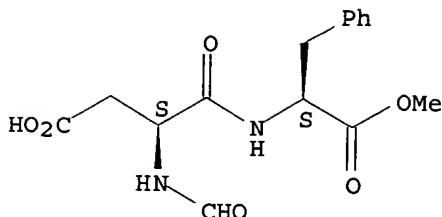
CI COM

LC STN Files: BEILSTEIN\*, BIOSIS, CA, CAPLUS, CASREACT, CHEMCATS, CHEMLIST, CSCHEM, IFICDB, IFIPAT, IFIUDB, IPA, TOXCENTER, USPATFULL  
(\*File contains numerically searchable property data)

Other Sources: EINECS\*\*

(\*\*Enter CHEMLIST File for up-to-date regulatory information)

Absolute stereochemistry. Rotation (-).

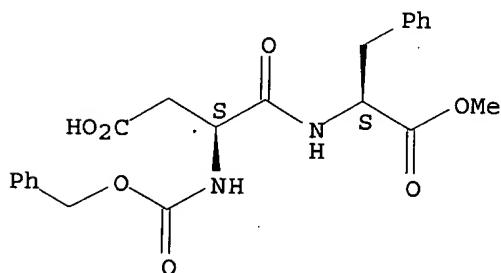


\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

69 REFERENCES IN FILE CA (1937 TO DATE)  
 69 REFERENCES IN FILE CAPLUS (1937 TO DATE)

L1 ANSWER 13 OF 17 REGISTRY COPYRIGHT 2003 ACS on STN  
 RN 33605-72-0 REGISTRY  
 CN L-Phenylalanine, N-[(phenylmethoxy)carbonyl]-L-.alpha.-aspartyl-, 2-methyl ester (9CI) (CA INDEX NAME)  
 OTHER CA INDEX NAMES:  
 CN L-Phenylalanine, N-[N-[(phenylmethoxy)carbonyl]-L-.alpha.-aspartyl]-, 1-methyl ester  
 CN Succinamic acid, 3-(carboxyamino)-N-[(.alpha.-carboxyphenethyl)-, 3-benzyl monomethyl ester, stereoisomer (8CI)  
 OTHER NAMES:  
 CN (Carbobenzyloxy)-.alpha.-L-aspartyl-L-phenylalanine methyl ester  
 CN N-(Benzylloxycarbonyl)-.alpha.-aspartylphenylalanine methyl ester  
 CN N-(Benzylloxycarbonyl)-.alpha.-L-aspartyl-L-phenylalanine methyl ester  
 CN N-(Benzylloxycarbonyl)-L-aspartyl-L-phenylalanine methyl ester  
 CN N-(Benzylloxycarbonyl)aspartame  
 FS STEREOSEARCH  
 MF C22 H24 N2 O7  
 CI COM  
 LC STN Files: BEILSTEIN\*, BIOBUSINESS, BIOSIS, CA, CAPLUS, CASREACT, CHEMCATS, CHEMINFORMRX, CHEMLIST, DETHERM\*, IFICDB, IFIPAT, IFIUDB, MEDLINE, PROMT, TOXCENTER, USPATFULL  
 (\*File contains numerically searchable property data)  
 Other Sources: EINECS\*\*  
 (\*\*Enter CHEMLIST File for up-to-date regulatory information)

Absolute stereochemistry. Rotation (-).

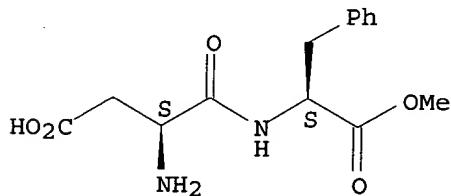


\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

195 REFERENCES IN FILE CA (1937 TO DATE)  
 1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
 196 REFERENCES IN FILE CAPLUS (1937 TO DATE)

L1 ANSWER 14 OF 17 REGISTRY COPYRIGHT 2003 ACS on STN  
 RN 22839-47-0 REGISTRY  
 CN L-Phenylalanine, L-.alpha.-aspartyl-, 2-methyl ester (9CI) (CA INDEX NAME)  
 OTHER CA INDEX NAMES:  
 CN L-Phenylalanine, N-L-.alpha.-aspartyl-, 1-methyl ester  
 CN Succinamic acid, 3-amino-N-(.alpha.-carboxyphenethyl)-, N-methyl ester, stereoisomer (8CI)  
 OTHER NAMES:  
 CN .alpha.-L-Aspartyl-L-phenylalanine methyl ester  
 CN .alpha.-Sweet  
 CN Aspartame  
 CN Aspartylphenylalanine methyl ester  
 CN Canderel  
 CN Dipeptide sweetener  
 CN E 951  
 CN L-.alpha.-Aspartyl-L-phenylalanine methyl ester  
 CN L-Aspartyl-L-3-phenylalanine methyl ester  
 CN L-Aspartyl-L-phenylalanine methyl ester  
 CN L-Aspartyl-L-phenylalanyl methyl ester  
 CN Methyl aspartylphenylalanate  
 CN NutraSweet  
 CN Pal Sweet  
 CN Palsweet Diet  
 CN Sweet dipeptide  
 FS STEREOSEARCH  
 DR 7421-84-3, 172964-81-7, 53906-69-7  
 MF C14 H18 N2 O5  
 CI COM  
 LC STN Files: ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, BEILSTEIN\*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CABA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN, CSCHEM, CSNB, DDFU, DIOGENES, DRUGU, EMBASE, HODOC\*, HSDB\*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK\*, MSDS-OHS, NAPRALERT, NIOSHTIC, PHARMASEARCH, PIRA, PROMT, RTECS\*, TOXCENTER, USAN, USPAT2, USPATFULL  
 (\*File contains numerically searchable property data)  
 Other Sources: DSL\*\*, EINECS\*\*, TSCA\*\*, WHO  
 (\*\*Enter CHEMLIST File for up-to-date regulatory information)

Absolute stereochemistry.



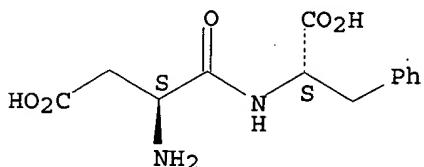
\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

2499 REFERENCES IN FILE CA (1937 TO DATE)  
 71 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
 2502 REFERENCES IN FILE CAPLUS (1937 TO DATE)

L1 ANSWER 15 OF 17 REGISTRY COPYRIGHT 2003 ACS on STN  
 RN 13433-09-5 REGISTRY  
 CN L-Phenylalanine, L-.alpha.-aspartyl- (9CI) (CA INDEX NAME)  
 OTHER CA INDEX NAMES:  
 CN L-Phenylalanine, N-L-.alpha.-aspartyl-  
 CN Succinamic acid, 3-amino-N-(.alpha.-carboxyphenethyl)-, stereoisomer (8CI)  
 OTHER NAMES:  
 CN .alpha.-Aspartylphenylalanine

CN .alpha.-L-Aspartyl-L-phenylalanine  
 CN Demethylaspartame  
 CN L-.alpha.-Aspartyl-L-phenylalanine  
 CN L-Aspartyl-L-phenylalanine  
 FS STEREOSEARCH  
 DR 5694-30-4  
 MF C13 H16 N2 O5  
 CI COM  
 LC STN Files: AGRICOLA, ANABSTR, BEILSTEIN\*, BIOBUSINESS, BIOSIS, CA,  
     CAOLD, CAPLUS, CASREACT, CEN, CHEMCATS, CHEMLIST, CSCHEM, IFICDB,  
     IFIPAT, IFIUDB, IPA, MEDLINE, PROMT, TOXCENTER, USPAT2, USPATFULL  
     (\*File contains numerically searchable property data)  
 Other Sources: EINECS\*\*  
     (\*\*Enter CHEMLIST File for up-to-date regulatory information)

Absolute stereochemistry.

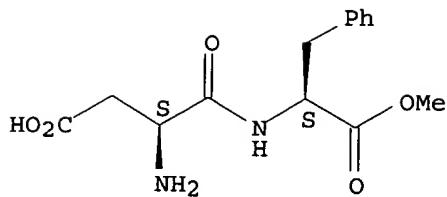


\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

197 REFERENCES IN FILE CA (1937 TO DATE)  
 25 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
 197 REFERENCES IN FILE CAPLUS (1937 TO DATE)  
 1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L1 ANSWER 16 OF 17 REGISTRY COPYRIGHT 2003 ACS on STN  
 RN 5910-52-1 REGISTRY  
 CN L-Phenylalanine, L-.alpha.-aspartyl-, 2-methyl ester, monohydrochloride  
     (9CI) (CA INDEX NAME)  
 OTHER CA INDEX NAMES:  
 CN L-Phenylalanine, N-L-.alpha.-aspartyl-, 1-methyl ester, monohydrochloride  
 CN Succinamic acid, 3-amino-N-(.alpha.-carboxyphenethyl)-, .alpha.-methyl  
     ester, monohydrochloride (8CI)  
 CN Succinamic acid, 3-amino-N-(.alpha.-carboxyphenethyl)-, 1-methyl ester,  
     hydrochloride (7CI)  
 OTHER NAMES:  
 CN .alpha.-Aspartame hydrochloride  
 CN .alpha.-Aspartylphenylalanine methyl ester hydrochloride  
 CN .alpha.-L-Aspartyl-L-phenylalanine methyl ester hydrochloride  
 CN Aspartam hydrochloride  
 CN Aspartame hydrochloride  
 CN L-.alpha.-Aspartyl-L-phenylalanine methyl ester monohydrochloride  
 CN L-Aspartyl-L-phenylalanine methyl ester hydrochloride  
 CN Methyl .alpha.-L-aspartyl-L-phenylalaninate hydrochloride  
 CN Usal  
 CN Usal (dipeptide)  
 FS STEREOSEARCH  
 MF C14 H18 N2 O5 . Cl H  
 LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, BEILSTEIN\*, BIOBUSINESS, BIOSIS,  
     BIOTECHNO, CA, CAOLD, CAPLUS, CASREACT, CHEMLIST, EMBASE, IFICDB,  
     IFIPAT, IFIUDB, IPA, PROMT, TOXCENTER, USPATFULL  
     (\*File contains numerically searchable property data)  
 Other Sources: EINECS\*\*  
     (\*\*Enter CHEMLIST File for up-to-date regulatory information)  
 CRN (22839-47-0)

Absolute stereochemistry.



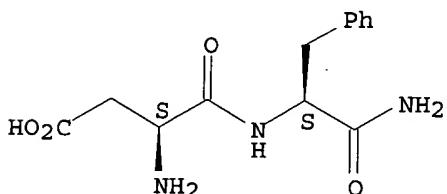
● HCl

\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

92 REFERENCES IN FILE CA (1937 TO DATE)  
 1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
 92 REFERENCES IN FILE CAPLUS (1937 TO DATE)  
 1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L1 ANSWER 17 OF 17 REGISTRY COPYRIGHT 2003 ACS on STN  
 RN 5241-71-4 REGISTRY  
 CN L-Phenylalaninamide, L-.alpha.-aspartyl- (9CI) (CA INDEX NAME)  
 OTHER CA INDEX NAMES:  
 CN Alaninamide, L-.alpha.-aspartylphenyl-, L- (8CI)  
 CN Succinamic acid, 3-amino-N-(.alpha.-carbamoylphenethyl)- (8CI)  
 OTHER NAMES:  
 CN Aspartylphenylalanine amide  
 CN Cholecystokinin 32-33  
 CN L-Aspartyl-L-phenylalaninamide  
 FS STEREOSEARCH  
 MF C13 H17 N3 O4  
 CI COM  
 LC STN Files: BEILSTEIN\*, BIOSIS, CA, CAOLD, CAPLUS, CASREACT, CHEMCATS,  
 CSCHEM, IFICDB, IFIPAT, IFIUDB, TOXCENTER, USPAT2, USPATFULL  
 (\*File contains numerically searchable property data)

Absolute stereochemistry.



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

87 REFERENCES IN FILE CA (1937 TO DATE)  
 2 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
 87 REFERENCES IN FILE CAPLUS (1937 TO DATE)  
 3 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

=> index bioscience medicine  
 FILE 'DRUGMONOG' ACCESS NOT AUTHORIZED  
 COST IN U.S. DOLLARS  
 FULL ESTIMATED COST

SINCE FILE ENTRY	TOTAL SESSION
41.98	42.19

INDEX 'ADISCTI, ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, AQUASCI, BIOBUSINESS, BIOCOMMERCE, BIOSIS, BIOTECHABS, BIOTECHDS, BIOTECHNO, CABA, CANCERLIT, CAPLUS, CEABA-VTB, CEN, CIN, CONFSCI, CROPB, CROPU, DDFB, DDFU, DGENE, DRUGB, DRUGLAUNCH, DRUGMONOG2, ...' ENTERED AT 17:00:47 ON 03 SEP 2003

70 FILES IN THE FILE LIST IN STNINDEX

Enter SET DETAIL ON to see search term postings or to view search error messages that display as 0\* with SET DETAIL OFF.

=> sel l1<chem>

L1<CHEM> IS NOT A VALID L-NUMBER

The L-number entered is not in the range of valid L-numbers.

=> s (13433-09-5 or aspartylphenyl?) and (synthetas? or synthas?)

2 FILE CAPLUS

1 FILE DDFB

1 FILE DRUGB

39 FILES SEARCHED...

3 FILES HAVE ONE OR MORE ANSWERS, 70 FILES SEARCHED IN STNINDEX

L2 QUE (13433-09-5 OR ASPARTYLPHENYL?) AND (SYNTHETAS? OR SYNTHAS?)

=> d rank

F1 2 CAPLUS

F2 1 DDFB

F3 1 DRUGB

=> s (dipeptid? or peptid?) (s) (synthetas? or synthas?)

13 FILE ADISCTI

11 FILE ADISINSIGHT

3 FILE ADISNEWS

331 FILE AGRICOLA

12 FILE ANABSTR

54 FILE AQUASCI

49 FILE BIOBUSINESS

15 FILE BIOCOMMERCE

4116 FILE BIOSIS

505 FILE BIOTECHABS

505 FILE BIOTECHDS

1865 FILE BIOTECHNO

571 FILE CABA

606 FILE CANCERLIT

2949 FILE CAPLUS

52 FILE CEABA-VTB

4 FILE CEN

7 FILE CIN

30 FILE CONFSCI

14 FILE CROPB

14 FILE CROPU

44 FILE DDFB

151 FILE DDFU

4682 FILE DGENE

24 FILES SEARCHED...

44 FILE DRUGB

4 FILE DRUGNL

231 FILE DRUGU

5 FILE DRUGUPDATES

62 FILE EMBAL

3252 FILE EMBASE

2198 FILE ESBIOBASE

245\* FILE FEDRIP

16 FILE FROSTI

58 FILE FSTA  
1265 FILE GENBANK  
233 FILE IFIPAT  
380 FILE JICST-EPLUS  
3 FILE KOSMET  
1503 FILE LIFESCI  
3019 FILE MEDLINE  
2 FILE NIOSHTIC  
17 FILE NTIS  
6 FILE OCEAN  
1247 FILE PASCAL

51 FILES SEARCHED...

3 FILE PHAR  
1 FILE PHIC  
12 FILE PHIN  
34 FILE PROMT  
3218 FILE SCISEARCH  
1 FILE SYNTHLINE  
1027 FILE TOXCENTER  
2134 FILE USPATFULL  
56 FILE USPAT2  
5 FILE VETU  
361 FILE WPIDS  
361 FILE WPINDEX  
7 FILE IPA  
6 FILE NAPRALERT  
37 FILE NLDB

59 FILES HAVE ONE OR MORE ANSWERS, 70 FILES SEARCHED IN STNINDEX

L3 QUE (DIPEPTID? OR PEPTID?) (S) (SYNTHETAS? OR SYNTHAS?)

=> d rank

F1	4682	DGENE
F2	4116	BIOSIS
F3	3252	EMBASE
F4	3218	SCISEARCH
F5	3019	MEDLINE
F6	2949	CAPLUS
F7	2198	ESBIOBASE
F8	2134	USPATFULL
F9	1865	BIOTECHNO
F10	1503	LIFESCI
F11	1265	GENBANK
F12	1247	PASCAL
F13	1027	TOXCENTER
F14	606	CANCERLIT
F15	571	CABA
F16	505	BIOTECHABS
F17	505	BIOTECHDS
F18	380	JICST-EPLUS
F19	361	WPIDS
F20	361	WPINDEX
F21	331	AGRICOLA
F22	245*	FEDRIP
F23	233	IFIPAT
F24	231	DRUGU
F25	151	DDFU
F26	62	EMBAL
F27	58	FSTA
F28	56	USPAT2
F29	54	AQUASCI
F30	52	CEABA-VTB
F31	49	BIOBUSINESS
F32	44	DDFB

F33	44	DRUGB
F34	37	NLDB
F35	34	PROMT
F36	30	CONFSCI
F37	17	NTIS
F38	16	FROSTI
F39	15	BIOCOMMERCE
F40	14	CROPB
F41	14	CROPU
F42	13	ADISCTI
F43	12	ANABSTR
F44	12	PHIN
F45	11	ADISINSIGHT
F46	7	CIN
F47	7	IPA
F48	6	OCEAN
F49	6	NAPRALERT
F50	5	DRUGUPDATES
F51	5	VETU
F52	4	CEN
F53	4	DRUGNL
F54	3	ADISNEWS
F55	3	KOSMET
F56	3	PHAR
F57	2	NIOSHTIC
F58	1	PHIC
F59	1	SYNTHLINE

```
=> s (dipeptid? or peptid?) (s) (synthetas? or synthas?) and (aspart? or phenylal?)

      1  FILE ADISCTI
      1  FILE ADISINSIGHT
     13  FILE AGRICOLA
      3  FILE AQUASCI
     10  FILE BIOBUSINESS
    219  FILE BIOSIS
     41  FILE BIOTECHABS
     41  FILE BIOTECHDS
    113  FILE BIOTECHNO
     18  FILE CABA
     19  FILE CANCERLIT
    214  FILE CAPLUS
      2  FILE CEABA-VTB
      1  FILE CEN
      1  FILE CIN
      1  FILE CONFSCI
      1  FILE CROPB
      1  FILE CROPU
      3  FILE DDFB
      3  FILE DDFU
     65  FILE DGENE

24 FILES SEARCHED...
      3  FILE DRUGB
     11  FILE DRUGU
      3  FILE EMBAL
    206  FILE EMBASE
     86  FILE ESBIOBASE
    11*  FILE FEDRIP
      1  FILE FROSTI
      4  FILE FSTA
    437  FILE GENBANK
     34  FILE IFIPAT
     13  FILE JICST-EPLUS
    102  FILE LIFESCI
    171  FILE MEDLINE
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1 FILE NTIS  
47 FILE PASCAL  
51 FILES SEARCHED...  
1 FILE PHIN  
1 FILE PROMT  
150 FILE SCISEARCH  
64 FILE TOXCENTER  
1132 FILE USPATFULL  
36 FILE USPAT2  
27 FILE WPIDS  
27 FILE WPINDEX  
1 FILE NLDB

45 FILES HAVE ONE OR MORE ANSWERS, 70 FILES SEARCHED IN STNINDEX

L4 QUE (DIPEPTID? OR PEPTID?) (S) (SYNTHETAS? OR SYNTHAS?) AND (ASPART? OR PHENYLAL?)

=> d rank

F1	1132	USPATFULL
F2	437	GENBANK
F3	219	BIOSIS
F4	214	CAPLUS
F5	206	EMBASE
F6	171	MEDLINE
F7	150	SCISEARCH
F8	113	BIOTECHNO
F9	102	LIFESCI
F10	86	ESBIOBASE
F11	65	DGENE
F12	64	TOXCENTER
F13	47	PASCAL
F14	41	BIOTECHABS
F15	41	BIOTECHDS
F16	36	USPAT2
F17	34	IFIPAT
F18	27	WPIDS
F19	27	WPINDEX
F20	19	CANCERLIT
F21	18	CABA
F22	13	AGRICOLA
F23	13	JICST-EPLUS
F24	11	DRUGU
F25	11*	FEDRIP
F26	10	BIOBUSINESS
F27	4	FSTA
F28	3	AQUASCI
F29	3	DDFB
F30	3	DDFU
F31	3	DRUGB
F32	3	EMBAL
F33	2	CEABA-VTB
F34	1	ADISCTI
F35	1	ADISINSIGHT
F36	1	CEN
F37	1	CIN
F38	1	CONFSCI
F39	1	CROPB
F40	1	CROPU
F41	1	FROSTI
F42	1	NTIS
F43	1	PHIN
F44	1	PROMT
F45	1	NLDB

=> file f1-f11 f18-19 f29 f31  
COST IN U.S. DOLLARS  
FULL ESTIMATED COST

	SINCE FILE ENTRY	TOTAL SESSION
	7.15	49.34

FILE 'USPATFULL' ENTERED AT 17:08:19 ON 03 SEP 2003  
CA INDEXING COPYRIGHT (C) 2003 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'GENBANK' ENTERED AT 17:08:19 ON 03 SEP 2003

FILE 'BIOSIS' ENTERED AT 17:08:19 ON 03 SEP 2003  
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FILE 'WPIDS' ENTERED AT 17:08:19 ON 03 SEP 2003  
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FILE 'WPINDEX' ACCESS NOT AUTHORIZED

FILE 'DDFB' ACCESS NOT AUTHORIZED

FILE 'DRUGB' ENTERED AT 17:08:19 ON 03 SEP 2003  
COPYRIGHT (C) 2003 THOMSON DERWENT

=> s (dipeptid? or peptid?) (s) (synthetas? or synthas?) and (aspart? or phenylal?)  
12 FILES SEARCHED...

L5 2925 (DIPEPTID? OR PEPTID?) (S) (SYNTHETAS? OR SYNTHAS?) AND (ASPART?  
OR PHENYLAL?)

=> s (13433-09-5 or aspartylphenyl?) and (synthetas? or synthas?)  
L6 3 (13433-09-5 OR ASPARTYLPHENYL?) AND (SYNTHETAS? OR SYNTHAS?)

=> d ti l6 1-3

L6 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2003 ACS on STN  
TI Microbiological production method for .alpha.-L-aspartyl-L-phenylalanine

L6 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2003 ACS on STN  
TI Peptide compounds for prevention and/or treatment of nitric oxide

(NO)-mediated diseases

L6 ANSWER 3 OF 3 DRUGB COPYRIGHT 2003 THOMSON DERWENT on STN  
TI ANALOGS OF L-ASPARTIC ACID IN CHEMOTHERAPY FOR CANCER.

=> d ibib abs 16 1-3

L6 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2003 ACS on STN  
ACCESSION NUMBER: 2000:707301 CAPLUS  
DOCUMENT NUMBER: 133:280654  
TITLE: Microbiological production method for  
.alpha.-L-aspartyl-L-phenylalanine  
INVENTOR(S): Doekel, Sasha; Marahiel, Mohamed Abdalla; Quaedflieg,  
Peter Jan Leonard Mario; Sonke, Theodorus  
PATENT ASSIGNEE(S): Holland Sweetener Company V.O.F., Neth.  
SOURCE: PCT Int. Appl., 70 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000058478	A1	20001005	WO 2000-NL206	20000328
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1096011	A1	20010502	EP 1999-203518	19991026
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
EP 1165799	A1	20020102	EP 2000-917475	20000328
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2002539835	T2	20021126	JP 2000-608758	20000328
BR 2000010398	A	20021203	BR 2000-10398	20000328
US 2002064834	A1	20020530	US 2001-966742	20011001
PRIORITY APPLN. INFO.:			EP 1999-200954	A 19990329
			US 1999-133402P	P 19990510
			EP 1999-203518	A 19991026
			WO 2000-NL206	W 20000328

AB The present invention relates to a new, microbiol. method for the prodn. of .alpha.-L-aspartyl-L-phenylalanine (Asp-Phe) from the substrates L-aspartic acid (L-Asp) and L-phenylalanine (L-Phe) wherein the substrates are contacted, in the presence of ATP, with a non-ribosomal dipeptide synthetase comprising 2 minimal modules connected by one condensation domain. The N- and C-terminal modules recognize L-Asp and L-Phe, resp., and the latter module is covalently bound at its N-terminal end to the condensation domain; each of these minimal modules is composed of an adenylation domain and a 4'-phosphopantetheinyl cofactor contg. thiolation domain. The present invention also relates to novel DNA fragments or combination of DNA fragments encoding a new Asp-Phe dipeptide synthetase, microorganisms contg. such DNA fragments, as well as to the new Asp-Phe dipeptide synthetase itself. Thus, Asp-Leu dimodular peptide synthetase-encoding DNA was obtained from the *Bacillus subtilis* ATCC 21332 surfactin synthetase A gene (*srfA-B*) by PCR. The Leu minimal domain-encoding DNA was replaced by a DNA from *Bacillus brevis* ATCC 8185 tyrocidine A synthetase gene

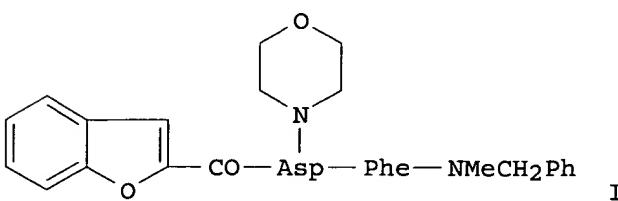
tycA coding for a Phe minimal module. Then an integral thioesterase domain was added to the C-terminal end of the Asp-Phe encoding DNA by replacement of the thiolation domain of the Phe module by a PCR fragment coding for the SrfA-C thiolation and thioesterase domain. The resulting dipeptide **synthetase**, when expressed by *Escherichia coli* or *Bacillus* cells under fermn. conditions, produces Asp-Leu and the desired Asp-Phe, which is a precursor for the artificial sweetener Asp-Phe Me ester.

REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2003 ACS on STN  
 ACCESSION NUMBER: 1996:494173 CAPLUS  
 DOCUMENT NUMBER: 125:143330  
 TITLE: Peptide compounds for prevention and/or treatment of nitric oxide (NO)-mediated diseases  
 INVENTOR(S): Itoh, Yoshikuni; Iwamoto, Toshiro; Yatabe, Takumi; Hamashima, Hitoshi; Inoue, Takayuki; Hashimoto, Seiji; Oku, Teruo  
 PATENT ASSIGNEE(S): Fujisawa Pharmaceutical Co., Ltd., Japan  
 SOURCE: PCT Int. Appl., 739 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9616981	A2	19960606	WO 1995-JP2428	19951129
WO 9616981	A3	19960906		
		W: AU, CA, CN, FI, HU, JP, KR, MX, NO, NZ, RU, UA, US RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG		
AU 9539937	A1	19960619	AU 1995-39937	19951129
EP 796270	A2	19970924	EP 1995-938602	19951129
		R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, PT, SE		
ZA 9510201	A	19960625	ZA 1995-10201	19951130
US 5932737	A	19990803	US 1997-849076	19970530
PRIORITY APPLN. INFO.:			GB 1994-24408	A 19941202
			GB 1995-4891	A 19950310
			GB 1995-10042	A 19950518
			WO 1995-JP2428	W 19951129

OTHER SOURCE(S): MARPAT 125:143330  
 GI



AB Peptides WA1NR8CH(A2T)CONR9CH(A3R3)R4 [W = alkyl, (un)substituted aryl or fluorenyl, etc.; A1 = alkylene, NHCO, CO, CS, SO<sub>2</sub>; A2 = alkylene; T = H, aryl, heterocyclyl, OH, etc.; R8 = H, alkyl; R8 may link with A2T to form CH<sub>2</sub>C<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>-o (Q); A3 = bond, alkylene; R3 = H, aryl, OH, etc.; R9 = H, alkyl or may link with A3R3 to form Q; R4 = CO<sub>2</sub>H, protected carboxy, carboxamido, etc. or CH(A3R3)R4 = N-alkyl-2-oxoquinoline moiety] or their pharmaceutically acceptable salts were prep'd. for use as medicaments. Thus, dipeptide I was prep'd. by acylation of

**aspartylphenylalaninamide** deriv. with 2-benzofurancarboxylic acid.  
I and six other peptides showed 100% inhibition of NO prodn. in tests of  
murine macrophage cells.

L6 ANSWER 3 OF 3 DRUGB COPYRIGHT 2003 THOMSON DERWENT on STN  
ACCESSION NUMBER: 1980-03894 B M  
TITLE: ANALOGS OF L-ASPARTIC ACID IN CHEMOTHERAPY FOR CANCER.  
AUTHOR: JAYARAM H N; COONEY D A  
LOCATION: BETHESDA, MD., USA.  
SOURCE: CANCER TREAT. REP. (63, NO. 6, 1095-1108, 1979)  
LANGUAGE: English

=> s 15 and ribosom?

L7 1223 L5 AND RIBOSOM?

=> s 17 and adenyl?

L8 512 L7 AND ADENYL?

=> s 18 and thiol?

L9 223 L8 AND THIOL?

=> s 19 and thioesteras?

L10 75 L9 AND THIOESTERAS?

=> dup rem 110

DUPLICATE IS NOT AVAILABLE IN 'GENBANK, DGENE'.  
ANSWERS FROM THESE FILES WILL BE CONSIDERED UNIQUE  
PROCESSING COMPLETED FOR L10

L11 74 DUP REM L10 (1 DUPLICATE REMOVED)

=> d ti l11 1-74

L11 ANSWER 1 OF 74 USPATFULL on STN

TI Methods and compositions for diagnosing and treating rheumatoid  
arthritis

L11 ANSWER 2 OF 74 USPATFULL on STN

TI Libraries of expressible gene sequences

L11 ANSWER 3 OF 74 USPATFULL on STN

TI Materials and methods to modulate ligand binding/enzymatic activity of  
alpha/beta proteins containing an allosteric regulatory site

L11 ANSWER 4 OF 74 USPATFULL on STN

TI Identification of modulatory molecules using inducible promoters

L11 ANSWER 5 OF 74 USPATFULL on STN

TI Genes and proteins for the biosynthesis of anthramycin

L11 ANSWER 6 OF 74 USPATFULL on STN

TI Production of polyketides

L11 ANSWER 7 OF 74 USPATFULL on STN

TI Libraries of expressible gene sequences

L11 ANSWER 8 OF 74 USPATFULL on STN

TI STAPHYLOCOCCUS AUREUS POLYNUCLEOTIDES AND SEQUENCES

L11 ANSWER 9 OF 74 USPATFULL on STN

TI Metastasis-associated genes

L11 ANSWER 10 OF 74 USPATFULL on STN

TI Human genes and gene expression products

- L11 ANSWER 11 OF 74 USPATFULL on STN  
TI Staphylococcus aureus polynucleotides and sequences
- L11 ANSWER 12 OF 74 USPATFULL on STN  
TI Nucleic acid sequences and expression system relating to Enterococcus faecium for diagnostics and therapeutics
- L11 ANSWER 13 OF 74 USPATFULL on STN  
TI Nucleic acid and amino acid sequences relating to Acinetobacter baumannii for diagnostics and therapeutics
- L11 ANSWER 14 OF 74 USPATFULL on STN  
TI Nucleic acid and amino acid sequences relating to pseudomonas aeruginosa for diagnostics and therapeutics
- L11 ANSWER 15 OF 74 USPATFULL on STN  
TI Nucleotide sequence of the Haemophilus influenzae Rd genome, fragments thereof, and uses thereof
- L11 ANSWER 16 OF 74 USPATFULL on STN  
TI Methods for the inhibition of Epstein-Barr virus transmission employing anti-viral peptides capable of abrogating viral fusion and transmission
- L11 ANSWER 17 OF 74 USPATFULL on STN  
TI Nucleotide sequence of the Haemophilus influenzae Rd genome, fragments thereof, and uses thereof
- L11 ANSWER 18 OF 74 USPATFULL on STN  
TI Novel Polynucleotides
- L11 ANSWER 19 OF 74 USPATFULL on STN  
TI Genes for the biosynthesis of epothilones
- L11 ANSWER 20 OF 74 USPATFULL on STN  
TI Methods for preparation of macrocyclic molecules and macrocyclic molecules prepared thereby
- L11 ANSWER 21 OF 74 USPATFULL on STN  
TI Gene cluster for ramoplanin biosynthesis
- L11 ANSWER 22 OF 74 USPATFULL on STN  
TI Stress-regulated genes of plants, transgenic plants containing same, and methods of use
- L11 ANSWER 23 OF 74 USPATFULL on STN  
TI Nucleic acids, proteins and antibodies
- L11 ANSWER 24 OF 74 USPATFULL on STN  
TI ENTEROCOCCUS FAECALIS POLYNUCLEOTIDES AND POLYPEPTIDES
- L11 ANSWER 25 OF 74 USPATFULL on STN  
TI Molecular toxicology modeling
- L11 ANSWER 26 OF 74 USPATFULL on STN  
TI Novel polynucleotides from atherogenic cells and polypeptides encoded thereby
- L11 ANSWER 27 OF 74 USPATFULL on STN  
TI Methyl-D-erythritol phosphate pathway genes
- L11 ANSWER 28 OF 74 USPATFULL on STN  
TI Microbiological production method for alpha-L-aspartyl-L-phenylalanine
- L11 ANSWER 29 OF 74 USPATFULL on STN

- TI      Expressed sequences of arabidopsis thaliana
- L11    ANSWER 30 OF 74    USPATFULL on STN
- TI      Expressed sequences of arabidopsis thaliana
- L11    ANSWER 31 OF 74    USPATFULL on STN
- TI      Expressed sequences of arabidopsis thaliana
- L11    ANSWER 32 OF 74    USPATFULL on STN
- TI      Methods for inhibition of membrane fusion-associated events, including respiratory syncytial virus transmission
- L11    ANSWER 33 OF 74    USPATFULL on STN
- TI      Polynucleotides and polypeptides derived from corn ear
- L11    ANSWER 34 OF 74    USPATFULL on STN
- TI      Multigene expression vectors for the biosynthesis of products via multienzyme biological pathways
- L11    ANSWER 35 OF 74    USPATFULL on STN
- TI      Genes for the biosynthesis of epothilones
- L11    ANSWER 36 OF 74    USPATFULL on STN
- TI      Genes for the biosynthesis of epothilones
- L11    ANSWER 37 OF 74    USPATFULL on STN
- TI      Genes for the biosynthesis of epothilones
- L11    ANSWER 38 OF 74    USPATFULL on STN
- TI      Genes for the biosynthesis of epothilones
- L11    ANSWER 39 OF 74    USPATFULL on STN
- TI      Genes for the biosynthesis of epothilones
- L11    ANSWER 40 OF 74    USPATFULL on STN
- TI      Computer readable genomic sequence of *Haemophilus influenzae* Rd, fragments thereof, and uses thereof
- L11    ANSWER 41 OF 74    USPATFULL on STN
- TI      Genes for the biosynthesis of epothilones
- L11    ANSWER 42 OF 74    USPATFULL on STN
- TI      Methods for using functional site descriptors and predicting protein function
- L11    ANSWER 43 OF 74    USPATFULL on STN
- TI      Human respiratory syncytial virus peptides with antifusogenic and antiviral activities
- L11    ANSWER 44 OF 74    CAPLUS COPYRIGHT 2003 ACS on STN
- TI      Analysis of the chromosome sequence of the legume symbiont *Sinorhizobium meliloti* strain 1021
- L11    ANSWER 45 OF 74    CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 1
- TI      Microbiological production method for  $\alpha$ -L-aspartyl-L-phenylalanine
- L11    ANSWER 46 OF 74    USPATFULL on STN
- TI      Genes for the biosynthesis of epothilones
- L11    ANSWER 47 OF 74    USPATFULL on STN
- TI      Pyrrolnitrin biosynthesis genes and uses thereof
- L11    ANSWER 48 OF 74    USPATFULL on STN
- TI      Genes for the synthesis of pyrrolnitrin

L11 ANSWER 49 OF 74 USPATFULL on STN  
TI Pyrrolnitrin biosynthesis genes

L11 ANSWER 50 OF 74 USPATFULL on STN  
TI Method of protecting plants by transformation with genes for the synthesis of antipathogenic substances

L11 ANSWER 51 OF 74 USPATFULL on STN  
TI Genes for the synthesis of antipathogenic substances

L11 ANSWER 52 OF 74 USPATFULL on STN  
TI Genes for the synthesis of antipathogenic substances

L11 ANSWER 53 OF 74 USPATFULL on STN  
TI Genes for the synthesis of antipathogenic substance

L11 ANSWER 54 OF 74 USPATFULL on STN  
TI Genes for the synthesis of antipathogenic substances

L11 ANSWER 55 OF 74 GENBANK.RTM. COPYRIGHT 2003 on STN  
TITLE (TI) : Genome divergence in two Prochlorococcus ecotypes reflects oceanic niche differentiation  
TITLE (TI) : Direct Submission

L11 ANSWER 56 OF 74 GENBANK.RTM. COPYRIGHT 2003 on STN  
TITLE (TI) : Genome divergence in two Prochlorococcus ecotypes reflects oceanic niche differentiation  
TITLE (TI) : Direct Submission

L11 ANSWER 57 OF 74 GENBANK.RTM. COPYRIGHT 2003 on STN  
TITLE (TI) : Genome divergence in two Prochlorococcus ecotypes reflects oceanic niche differentiation  
TITLE (TI) : Direct Submission

L11 ANSWER 58 OF 74 GENBANK.RTM. COPYRIGHT 2003 on STN  
TITLE (TI) : Comparative analysis of the genome sequences of *Bordetella pertussis*, *Bordetella parapertussis* and *Bordetella bronchiseptica*  
TITLE (TI) : Direct Submission

L11 ANSWER 59 OF 74 GENBANK.RTM. COPYRIGHT 2003 on STN  
TITLE (TI) : Comparative analysis of the genome sequences of *Bordetella pertussis*, *Bordetella parapertussis* and *Bordetella bronchiseptica*  
TITLE (TI) : Direct Submission

L11 ANSWER 60 OF 74 GENBANK.RTM. COPYRIGHT 2003 on STN  
TITLE (TI) : Comparative analysis of the genome sequences of *Bordetella pertussis*, *Bordetella parapertussis* and *Bordetella bronchiseptica*  
TITLE (TI) : Direct Submission

L11 ANSWER 61 OF 74 GENBANK.RTM. COPYRIGHT 2003 on STN  
TITLE (TI) : Complete genome sequence of the marine planctomycete *Pirellula* sp. strain 1  
TITLE (TI) : Direct Submission

L11 ANSWER 62 OF 74 GENBANK.RTM. COPYRIGHT 2003 on STN  
TITLE (TI) : Complete genome sequence of the marine planctomycete  
TITLE (TI) : *Pirellula* sp. strain 1  
Direct Submission

L11 ANSWER 63 OF 74 GENBANK.RTM. COPYRIGHT 2003 on STN  
TITLE (TI) : The complete genome sequence of *Mycobacterium bovis*  
TITLE (TI) : Direct Submission

L11 ANSWER 64 OF 74 GENBANK.RTM. COPYRIGHT 2003 on STN  
TITLE (TI) : The complete genome sequence of *Mycobacterium bovis*  
TITLE (TI) : Direct Submission

L11 ANSWER 65 OF 74 GENBANK.RTM. COPYRIGHT 2003 on STN  
TITLE (TI) : The complete genome sequence of *Mycobacterium bovis*  
TITLE (TI) : Direct Submission

L11 ANSWER 66 OF 74 GENBANK.RTM. COPYRIGHT 2003 on STN  
TITLE (TI) : The Genome Sequence of *Bacillus anthracis* Ames and  
Comparison to Closely-Related Bacteria  
TITLE (TI) : Direct Submission

L11 ANSWER 67 OF 74 GENBANK.RTM. COPYRIGHT 2003 on STN  
TITLE (TI) : Complete Genome Sequence and Comparative Genomics of  
*Shigella flexneri* Serotype 2a Strain 2457T  
TITLE (TI) : Direct Submission

L11 ANSWER 68 OF 74 GENBANK.RTM. COPYRIGHT 2003 on STN  
TITLE (TI) : Complete Sequence of *Pseudomonas syringae*  
TITLE (TI) : Direct Submission

L11 ANSWER 69 OF 74 GENBANK.RTM. COPYRIGHT 2003 on STN  
TITLE (TI) : Complete genome sequence of the model actinomycete  
*Streptomyces coelicolor* A3(2)  
TITLE (TI) : Direct Submission

L11 ANSWER 70 OF 74 GENBANK.RTM. COPYRIGHT 2003 on STN  
TITLE (TI) : Complete genome sequence of a multiple drug resistant  
*Salmonella enterica* serovar *Typhi* CT18  
TITLE (TI) : Direct Submission

L11 ANSWER 71 OF 74 GENBANK.RTM. COPYRIGHT 2003 on STN  
TITLE (TI) : The complete genome sequence of the murine respiratory  
pathogen *Mycoplasma pulmonis*  
TITLE (TI) : Direct Submission

L11 ANSWER 72 OF 74 GENBANK.RTM. COPYRIGHT 2003 on STN  
TITLE (TI) : Massive gene decay in the leprosy bacillus  
TITLE (TI) : Direct Submission

L11 ANSWER 73 OF 74 GENBANK.RTM. COPYRIGHT 2003 on STN  
TITLE (TI) : Complete genome structure of the nitrogen-fixing  
symbiotic bacterium *Mesorhizobium loti*

TITLE (TI): Direct Submission

L11 ANSWER 74 OF 74 GENBANK.RTM. COPYRIGHT 2003 on STN

TITLE (TI): Complete genome structure of the nitrogen-fixing symbiotic bacterium *Mesorhizobium loti*  
TITLE (TI): Direct Submission

=> d ibib abs l11 45 28

L11 ANSWER 45 OF 74 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 1  
ACCESSION NUMBER: 2000:707301 CAPLUS  
DOCUMENT NUMBER: 133:280654  
TITLE: Microbiological production method for  $\alpha$ -L-  
aspartyl-L-phenylalanine  
INVENTOR(S): Doekel, Sasha; Marahiel, Mohamed Abdalla; Quaedflieg, Peter Jan Leonard Mario; Sonke, Theodorus  
PATENT ASSIGNEE(S): Holland Sweetener Company V.O.F., Neth.  
SOURCE: PCT Int. Appl., 70 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000058478	A1	20001005	WO 2000-NL206	20000328
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1096011	A1	20010502	EP 1999-203518	19991026
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
EP 1165799	A1	20020102	EP 2000-917475	20000328
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2002539835	T2	20021126	JP 2000-608758	20000328
BR 2000010398	A	20021203	BR 2000-10398	20000328
US 2002064834	A1	20020530	US 2001-966742	20011001
PRIORITY APPLN. INFO.:			EP 1999-200954	A 19990329
			US 1999-133402P	P 19990510
			EP 1999-203518	A 19991026
			WO 2000-NL206	W 20000328

AB The present invention relates to a new, microbiol. method for the prodn. of  $\alpha$ -L-aspartyl-L-phenylalanine (Asp-Phe) from the substrates L-aspartic acid (L-Asp) and L-phenylalanine (L-Phe) wherein the substrates are contacted, in the presence of ATP, with a non-ribosomal dipeptide synthetase comprising 2 minimal modules connected by one condensation domain. The N- and C-terminal modules recognize L-Asp and L-Phe, resp., and the latter module is covalently bound at its N-terminal end to the condensation domain; each of these minimal modules is composed of an adenylation domain and a 4'-phosphopantetheinyl cofactor contg. thiolation domain. The present invention also relates to novel DNA fragments or combination of DNA fragments encoding a new Asp-Phe dipeptide synthetase, microorganisms contg. such DNA fragments, as well as to the new Asp-Phe dipeptide

synthetase itself. Thus, Asp-Leu dimodular peptide synthetase-encoding DNA was obtained from the *Bacillus subtilis* ATCC 21332 surfactin synthetase A gene (*srfA-B*) by PCR. The Leu minimal domain-encoding DNA was replaced by a DNA from *Bacillus brevis* ATCC 8185 tyrocidine A synthetase gene *tycA* coding for a Phe minimal module. Then an integral thioesterase domain was added to the C-terminal end of the Asp-Phe encoding DNA by replacement of the thiolation domain of the Phe module by a PCR fragment coding for the SrfA-C thiolation and thioesterase domain. The resulting dipeptide synthetase, when expressed by *Escherichia coli* or *Bacillus* cells under ferment. conditions, produces Asp-Leu and the desired Asp-Phe, which is a precursor for the artificial sweetener Asp-Phe Me ester.

REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 28 OF 74 USPATFULL on STN

ACCESSION NUMBER: 2002:126322 USPATFULL

TITLE: Microbiological production method for alpha-L-aspartyl-L-phenylalanine

INVENTOR(S): Doekel, Sascha, Vancouver, CANADA  
Marahiel, Mohamed A., Marburg, GERMANY, FEDERAL  
REPUBLIC OF  
Quaedflieg, Peter J.L.M., Geleen, NETHERLANDS  
Sonke, Theodorus, Sittard, NETHERLANDS

NUMBER	KIND	DATE
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PATENT INFORMATION: US 2002064834 A1 20020530

APPLICATION INFO.: US 2001-966742 A1 20011001 (9)

RELATED APPLN. INFO.: Continuation of Ser. No. WO 2000-NL206, filed on 28 Mar 2000, UNKNOWN

NUMBER	DATE
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PRIORITY INFORMATION: EP 1999-200954 19990329  
EP 1999-203518 19991026  
US 1999-133402P 19990510 (60)

DOCUMENT TYPE: Utility

FILE SEGMENT: APPLICATION

LEGAL REPRESENTATIVE: PILLSBURY WINTHROP LLP, 1600 TYSONS BOULEVARD, MCLEAN, VA, 22102

NUMBER OF CLAIMS: 25

EXEMPLARY CLAIM: 1

LINE COUNT: 1289

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to a new, microbiological, method for the production of alpha-L-aspartyl-L-phenylalanine (Asp-Phe) from the substrates L-aspartic acid (L-Asp) and L-phenylalanine (L-Phe) wherein the substrates are contacted, in the presence of ATP, with a non-ribosomal dipeptide synthetase comprising two minimal modules connected by one condensation domain wherein the N- resp. C-terminal modules are recognizing L-Asp and L-Phe, respectively, and the latter module is covalently bound at its N-terminal end to the condensation domain, and wherein each of these minimal modules is composed of an adenylation domain and a 4'-phosphopantetheinyl cofactor containing thiolation domain, and that the Asp-Phe formed is recovered. The present invention also relates to novel DNA fragments or combination of DNA fragments encoding a new Asp-Phe dipeptide synthetase, micro-organisms containing such DNA fragments, as well as to the new Asp-Phe dipeptide synthetases itself.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

=> d his

(FILE 'HOME' ENTERED AT 16:46:30 ON 03 SEP 2003)

FILE 'REGISTRY' ENTERED AT 16:46:57 ON 03 SEP 2003

E ASPARTYL?

E ASPARTYLPHENYL?

L1 17 S E6

INDEX 'ADISCTI, ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, AQUASCI, BIOBUSINESS, BIOCOMMERCE, BIOSIS, BIOTECHABS, BIOTECHDS, BIOTECHNO, CABA, CANCERLIT, CAPLUS, CEABA-VTB, CEN, CIN, CONFSCI, CROPB, CROPU, DDFB, DDFU, DGENE, DRUGB, DRUGLAUNCH, DRUGMONOG2, ...' ENTERED AT 17:00:47 ON 03 SEP 2003

SEA (13433-09-5 OR ASPARTYLPHENYL?) AND (SYNTHETAS? OR SYNTHAS?)

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2 FILE CAPLUS

1 FILE DDFB

1 FILE DRUGB

L2 QUE (13433-09-5 OR ASPARTYLPHENYL?) AND (SYNTHETAS? OR SYNTHAS?)

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SEA (DIPEPTID? OR PEPTID?) (S) (SYNTHETAS? OR SYNTHAS?)

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13 FILE ADISCTI  
11 FILE ADISINSIGHT  
3 FILE ADISNEWS  
331 FILE AGRICOLA  
12 FILE ANABSTR  
54 FILE AQUASCI  
49 FILE BIOBUSINESS  
15 FILE BIOCOMMERCE  
4116 FILE BIOSIS  
505 FILE BIOTECHABS  
505 FILE BIOTECHDS  
1865 FILE BIOTECHNO  
571 FILE CABA  
606 FILE CANCERLIT  
2949 FILE CAPLUS  
52 FILE CEABA-VTB  
4 FILE CEN  
7 FILE CIN  
30 FILE CONFSCI  
14 FILE CROPB  
14 FILE CROPU  
44 FILE DDFB  
151 FILE DDFU  
4682 FILE DGENE  
44 FILE DRUGB  
4 FILE DRUGNL  
231 FILE DRUGU  
5 FILE DRUGUPDATES  
62 FILE EMBAL  
3252 FILE EMBASE  
2198 FILE ESBIOBASE  
245\* FILE FEDRIP  
16 FILE FROSTI  
58 FILE FSTA  
1265 FILE GENBANK  
233 FILE IFIPAT  
380 FILE JICST-EPLUS  
3 FILE KOSMET  
1503 FILE LIFESCI  
3019 FILE MEDLINE

2 FILE NIOSHTIC  
17 FILE NTIS  
6 FILE OCEAN  
1247 FILE PASCAL  
3 FILE PHAR  
1 FILE PHIC  
12 FILE PHIN  
34 FILE PROMT  
3218 FILE SCISEARCH  
1 FILE SYNTHLINE  
1027 FILE TOXCENTER  
2134 FILE USPATFULL  
56 FILE USPAT2  
5 FILE VETU  
361 FILE WPIDS  
361 FILE WPINDEX  
7 FILE IPA  
6 FILE NAPRALERT  
37 FILE NLDB  
L3 QUE (DIPEPTID? OR PEPTID?) (S) (SYNTHETAS? OR SYNTHAS?)  
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SEA (DIPEPTID? OR PEPTID?) (S) (SYNTHETAS? OR SYNTHAS?) AND (AS  
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1 FILE ADISCTI  
1 FILE ADISINSIGHT  
13 FILE AGRICOLA  
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41 FILE BIOTECHDS  
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18 FILE CABA  
19 FILE CANCERLIT  
214 FILE CAPLUS  
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1 FILE CEN  
1 FILE CIN  
1 FILE CONFSCI  
1 FILE CROPB  
1 FILE CROPU  
3 FILE DDFB  
3 FILE DDFU  
65 FILE DGENE  
3 FILE DRUGB  
11 FILE DRUGU  
3 FILE EMBAL  
206 FILE EMBASE  
86 FILE ESBIOBASE  
11\* FILE FEDRIP  
1 FILE FROSTI  
4 FILE FSTA  
437 FILE GENBANK  
34 FILE IFIPAT  
13 FILE JICST-EPLUS  
102 FILE LIFESCI  
171 FILE MEDLINE  
1 FILE NTIS  
47 FILE PASCAL  
1 FILE PHIN  
1 FILE PROMT  
150 FILE SCISEARCH  
64 FILE TOXCENTER  
1132 FILE USPATFULL  
36 FILE USPAT2

27 FILE WPIDS  
27 FILE WPIINDEX  
1 FILE NLDB  
L4 QUE (DIPEPTID? OR PEPTID?) (S) (SYNTHETAS? OR SYNTHAS?) AND (AS  
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FILE 'USPATFULL, GENBANK, BIOSIS, CAPLUS, EMBASE, MEDLINE, SCISEARCH,  
BIOTECHNO, LIFESCI, ESBIOBASE, DGENE, WPIDS, DRUGB' ENTERED AT 17:08:19  
ON 03 SEP 2003

L5 2925 S (DIPEPTID? OR PEPTID?) (S) (SYNTHETAS? OR SYNTHAS?) AND (ASPA  
L6 3 S (13433-09-5 OR ASPARTYLPHENYL?) AND (SYNTHETAS? OR SYNTHAS?)  
L7 1223 S L5 AND RIBOSOM?  
L8 512 S L7 AND ADENYL?  
L9 223 S L8 AND THIOL?  
L10 75 S L9 AND THIOESTERAS?  
L11 74 DUP REM L10 (1 DUPLICATE REMOVED)

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COST IN U.S. DOLLARS

	SINCE FILE	TOTAL
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FULL ESTIMATED COST	91.73	141.07

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

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	ENTRY	SESSION
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## Freeform Search

**Database:**

US Patents Full-Text Database  
 US Pre-Grant Publication Full-Text Database  
 JPO Abstracts Database  
 EPO Abstracts Database  
 Derwent World Patents Index  
**IBM Technical Disclosure Bulletins**

**Term:**

L6 and ATP\$4

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**Generate:**  Hit List  Hit Count  Side by Side  Image

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## Search History

**DATE:** Wednesday, September 03, 2003 [Printable Copy](#) [Create Case](#)

<u>Set Name</u>	<u>Query</u>	<u>Hit Count</u>	<u>Set Name</u>
side by side			result set
<i>DB=USPT,PGPB,JPAB,EPAB,DWPI; PLUR=YES; OP=OR</i>			
<u>L7</u>	L6 and ATP\$4	28	<u>L7</u>
<u>L6</u>	L5 and thioesteras\$5	34	<u>L6</u>
<u>L5</u>	L4 and condensat\$4	56	<u>L5</u>
<u>L4</u>	L2 and (adenyl\$4 or thiol\$6)	170	<u>L4</u>
<u>L3</u>	L2 and (marahie\$3 or doeke\$3 or sonke\$3 or quaedflie\$4).in.	3	<u>L3</u>
<u>L2</u>	L1 same (asp\$6 or phe\$10)	437	<u>L2</u>
<u>L1</u>	(peptid\$3 or dipeptid\$3) same (synthetas\$3 or synthas\$3)	2424	<u>L1</u>

END OF SEARCH HISTORY

WEST

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## Search Results - Record(s) 1 through 3 of 3 returned.

 1. Document ID: US 20020064834 A1

L3: Entry 1 of 3

File: PGPB

May 30, 2002

PGPUB-DOCUMENT-NUMBER: 20020064834

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020064834 A1

TITLE: Microbiological production method for alpha-L-aspartyl-L-phenylalanine

PUBLICATION-DATE: May 30, 2002

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Doekel, Sascha	Vancouver		CA	
Marahiel, Mohamed A.	Marburg		DE	
Quaedflieg, Peter J.L.M.	Geleen		NL	
Sonke, Theodorus	Sittard		NL	

US-CL-CURRENT: 435/71.1; 435/69.1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KOMC	Draw. Desc
<a href="#">Image</a>												

 2. Document ID: EP 1096011 A1

L3: Entry 2 of 3

File: EPAB

May 2, 2001

PUB-NO: EP001096011A1

DOCUMENT-IDENTIFIER: EP 1096011 A1

TITLE: Microbiological production method for alpha-L-aspartyl-L-phenylalanine

PUBN-DATE: May 2, 2001

## INVENTOR-INFORMATION:

NAME	COUNTRY
DOEKEL, SASCHA	DE
MARAHIEL, MOHAMED ABDALLA	DE
QUAEDFLIEG, PETER JAN LEONARD M	NL
SONKE, THEODORUS	NL

INT-CL (IPC): C12 N 15/52; C12 N 15/62; C12 N 9/00; C07 K 5/06EUR-CL (EPC): C12N009/00; C12N015/52

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KOMC	Draw. Desc
<a href="#">Image</a>												

3. Document ID: JP 2002539835 W WO 200058478 A1 AU 200038439 A EP 1096011 A1 EP 1165799 A1 KR 2001112931 A US 20020064834 A1 CN 1353757 A BR 200010398 A

L3: Entry 3 of 3

File: DWPI

Nov 26, 2002

DERWENT-ACC-NO: 2000-611714

DERWENT-WEEK: 200307

COPYRIGHT 2003 DERWENT INFORMATION LTD

TITLE: Microbiological production of alpha-L-aspartyl-L-phenylalanine intermediate for sweetener

INVENTOR: DOEKEL, S ; MARAHIEL, M A ; QUAEDFLIEG, P J L M ; SONKE, T

PRIORITY-DATA: 1999EP-0203518 (October 26, 1999), 1999EP-0200954 (March 29, 1999)

## PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
JP 2002539835 W	November 26, 2002		065	C12N015/09
WO 200058478 A1	October 5, 2000	E	070	C12N015/52
AU 200038439 A	October 16, 2000		000	C12N015/52
EP 1096011 A1	May 2, 2001	E	000	C12N015/52
EP 1165799 A1	January 2, 2002	E	000	C12N015/52
KR 2001112931 A	December 22, 2001		000	C12P021/02
US 20020064834 A1	May 30, 2002		000	C12P021/04
CN 1353757 A	June 12, 2002		000	C12N015/52
BR 200010398 A	December 3, 2002		000	C12N015/52

INT-CL (IPC): C07 K 5/06; C12 N 1/21; C12 N 9/00; C12 N 15/09; C12 N 15/52; C12 N 15/62; C12 P 21/02; C12 P 21/04; C12 N 1/21; C12 N 1/21; C12 R 1:07; C12 R 1:19

<a href="#">Full</a>	<a href="#">Title</a>	<a href="#">Citation</a>	<a href="#">Front</a>	<a href="#">Review</a>	<a href="#">Classification</a>	<a href="#">Date</a>	<a href="#">Reference</a>	<a href="#">Sequences</a>	<a href="#">Attachments</a>	<a href="#">KMC</a>	<a href="#">Draw. Desc.</a>
<a href="#">Image</a>											

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WEST

**Search Results - Record(s) 1 through 10 of 28 returned.** 1. Document ID: US 20030054436 A1

L7: Entry 1 of 28

File: PGPB

Mar 20, 2003

PGPUB-DOCUMENT-NUMBER: 20030054436  
 PGPUB-FILING-TYPE: new  
 DOCUMENT-IDENTIFIER: US 20030054436 A1

TITLE: STAPHYLOCOCCUS AUREUS POLYNUCLEOTIDES AND SEQUENCES

PUBLICATION-DATE: March 20, 2003

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
KUNSCH, CHARLES A.	GAITHERSBURG	MD	US	
CHOI, GIL A.	ROCKVILLE	MD	US	
BARASH, STEVEN C.	ROCKVILLE	MD	US	
DILLON, PATRICK J.	GAITHERSBURG	MD	US	
FANNON, MICHAEL R.	SILVER SPRING	MD	US	
ROSEN, CRAIG A.	LAYTONSVILLE	MD	US	

US-CL-CURRENT: 435/69.1; 435/252.3, 435/320.1, 536/23.1, 536/23.7

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw Desc
<a href="#">Image</a>												

 2. Document ID: US 20020192778 A1

L7: Entry 2 of 28

File: PGPB

Dec 19, 2002

PGPUB-DOCUMENT-NUMBER: 20020192778  
 PGPUB-FILING-TYPE: new  
 DOCUMENT-IDENTIFIER: US 20020192778 A1

TITLE: Genes for the biosynthesis of epothilones

PUBLICATION-DATE: December 19, 2002

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Schupp, Thomas	Mohlin	NC	CH	
Ligon, James Madison	Apex	NC	US	
Molnar, Istvan	Durham	NC	US	
Zirkle, Ross	Raleigh	NC	US	
Cyr, Devon Dawn	Fuquay-Varina	NC	US	
Gorlach, Jorn	Durham		US	

US-CL-CURRENT: 435/183; 435/252.3, 435/320.1, 435/69.1, 536/23.2

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw Desc
<a href="#">Image</a>												

 3. Document ID: US 20020164747 A1

L7: Entry 3 of 28

File: PGPB

Nov 7, 2002

PGPUB-DOCUMENT-NUMBER: 20020164747

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020164747 A1

TITLE: Gene cluster for ramoplanin biosynthesis

PUBLICATION-DATE: November 7, 2002

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Farnet, Chris M.	Outremont		CA	
Zazopoulos, Emmanuel	Outremont		CA	
Staffa, Alfredo	St-Leonard		CA	

US-CL-CURRENT: 435/193; 435/320.1, 435/325, 435/69.1, 536/23.2

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	<a href="#">KWIC</a>	Draw Desc
<a href="#">Image</a>											

 4. Document ID: US 20020151681 A1

L7: Entry 4 of 28

File: PGPB

Oct 17, 2002

PGPUB-DOCUMENT-NUMBER: 20020151681

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020151681 A1

TITLE: Nucleic acids, proteins and antibodies

PUBLICATION-DATE: October 17, 2002

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Rosen, Craig A.	Laytonsville	MD	US	
Ruben, Steven M.	Olney	MD	US	

US-CL-CURRENT: 530/350; 435/320.1, 435/325, 435/69.3, 536/23.5

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	<a href="#">KWIC</a>	Draw Desc
<a href="#">Image</a>											

 5. Document ID: US 20020064834 A1

L7: Entry 5 of 28

File: PGPB

May 30, 2002

PGPUB-DOCUMENT-NUMBER: 20020064834  
 PGPUB-FILING-TYPE: new  
 DOCUMENT-IDENTIFIER: US 20020064834 A1

TITLE: Microbiological production method for alpha-L-aspartyl-L-phenylalanine

PUBLICATION-DATE: May 30, 2002

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Doekel, Sascha	Vancouver	CA		
Marahiel, Mohamed A.	Marburg	DE		
Quaedflieg, Peter J.L.M.	Geleen	NL		
Sonke, Theodorus	Sittard	NL		

US-CL-CURRENT: 435/71.1; 435/69.1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	KMC	Draw. Desc
<a href="#">Image</a>											

 6. Document ID: US 20020009730 A1

L7: Entry 6 of 28

File: PGPB

Jan 24, 2002

PGPUB-DOCUMENT-NUMBER: 20020009730  
 PGPUB-FILING-TYPE: new  
 DOCUMENT-IDENTIFIER: US 20020009730 A1

TITLE: Human stress array

PUBLICATION-DATE: January 24, 2002

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Chenchik, Alex	Palo Alto	CA	US	
Lukashev, Matvey E.	Newton	MA	US	

US-CL-CURRENT: 435/6; 536/24.3

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	KMC	Draw. Desc
<a href="#">Image</a>											

 7. Document ID: US 20010051335 A1

L7: Entry 7 of 28

File: PGPB

Dec 13, 2001

PGPUB-DOCUMENT-NUMBER: 20010051335  
 PGPUB-FILING-TYPE: new  
 DOCUMENT-IDENTIFIER: US 20010051335 A1

TITLE: POLYNUCLEOTIDES AND POLYPEPTIDES DERIVED FROM CORN TASSEL

PUBLICATION-DATE: December 13, 2001

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
LALGUDI, RAGHUNATH V.	CLAYTON	MO	US	
ITO, LAURA Y.	PLEASANTON	CA	US	
SHERMAN, BRADLEY K.	OAKLAND	CA	US	

US-CL-CURRENT: 435/6; 435/69.1

<a href="#">Full</a>	<a href="#">Title</a>	<a href="#">Citation</a>	<a href="#">Front</a>	<a href="#">Review</a>	<a href="#">Classification</a>	<a href="#">Date</a>	<a href="#">Reference</a>	<a href="#">Sequences</a>	<a href="#">Attachments</a>	<a href="#">KMC</a>	<a href="#">Drawn Desc</a>
<a href="#">Image</a>											

 8. Document ID: US 6593114 B1

L7: Entry 8 of 28

File: USPT

Jul 15, 2003

US-PAT-NO: 6593114

DOCUMENT-IDENTIFIER: US 6593114 B1

TITLE: *Staphylococcus aureus* polynucleotides and sequences

DATE-ISSUED: July 15, 2003

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Kunsch; Charles A.	Norcross	GA		
Choi; Gil H.	Rockville	MD		
Barash; Steven	Rockville	MD		
Dillon; Patrick J.	Carlsbad	CA		
Fannon; Michael R.	Silver Spring	MD		
Rosen; Craig A.	Laytonsville	MD		

US-CL-CURRENT: 435/91.41; 435/252.3, 435/254.11, 435/257.2, 435/320.1, 435/325,  
435/91.4, 536/23.7

<a href="#">Full</a>	<a href="#">Title</a>	<a href="#">Citation</a>	<a href="#">Front</a>	<a href="#">Review</a>	<a href="#">Classification</a>	<a href="#">Date</a>	<a href="#">Reference</a>	<a href="#">Sequences</a>	<a href="#">Attachments</a>	<a href="#">KMC</a>	<a href="#">Drawn Desc</a>
<a href="#">Image</a>											

 9. Document ID: US 6583275 B1

L7: Entry 9 of 28

File: USPT

Jun 24, 2003

US-PAT-NO: 6583275

DOCUMENT-IDENTIFIER: US 6583275 B1

TITLE: *Nucleic acid sequences and expression system relating to Enterococcus faecium for diagnostics and therapeutics*

DATE-ISSUED: June 24, 2003

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Doucette-Stamm; Lynn A.	Framingham	MA		
Bush; David	Somerville	MA		

US-CL-CURRENT: 536/23.1; 435/243, 435/320.1, 435/325, 435/6, 536/24.3, 536/24.32

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	KWIC	Draw Desc
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10. Document ID: US 6562958 B1

L7: Entry 10 of 28

File: USPT

May 13, 2003

US-PAT-NO: 6562958

DOCUMENT-IDENTIFIER: US 6562958 B1

TITLE: Nucleic acid and amino acid sequences relating to *Acinetobacter baumannii* for diagnostics and therapeutics

DATE-ISSUED: May 13, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Breton; Gary	Marlborough	MA		
Bush; David	Somerville	MA		

US-CL-CURRENT: 536/23.7; 536/23.1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	KWIC	Draw Desc
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## Search Results - Record(s) 11 through 20 of 28 returned.

 11. Document ID: US 6476212 B1

L7: Entry 11 of 28

File: USPT

Nov 5, 2002

US-PAT-NO: 6476212

DOCUMENT-IDENTIFIER: US 6476212 B1

\*\* See image for Certificate of Correction \*\*

TITLE: Polynucleotides and polypeptides derived from corn ear

DATE-ISSUED: November 5, 2002

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Lalgudi; Raghunath V.	Clayton	MO		
Ito; Laura Y.	Pleasanton	CA		
Sherman; Bradley K.	Oakland	CA		

US-CL-CURRENT: 536/23.6; 435/6, 536/24.3

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KOMC	Draw. Desc.
<a href="#">Image</a>												

 12. Document ID: US 6383787 B1

L7: Entry 12 of 28

File: USPT

May 7, 2002

US-PAT-NO: 6383787

DOCUMENT-IDENTIFIER: US 6383787 B1

\*\* See image for Certificate of Correction \*\*

TITLE: Genes for the biosynthesis of epothilones

DATE-ISSUED: May 7, 2002

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Schupp; Thomas	Mohlin			CH
Ligon; James Madison	Apex	NC		
Molnar; Istvan	Durham	NC		
Zirkle; Ross	Raleigh	NC		
Cyr; Devon Dawn	Fuquay-Varina	NC		
Gorlach; Jorn	Durham	NC		

US-CL-CURRENT: 435/183; 435/193, 435/252.3, 435/252.35, 435/320.1, 536/23.1, 536/23.2,  
536/23.7

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMC	Draw Desc
<a href="#">Image</a>												

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13. Document ID: US 6358719 B1

L7: Entry 13 of 28

File: USPT

Mar 19, 2002

US-PAT-NO: 6358719

DOCUMENT-IDENTIFIER: US 6358719 B1

TITLE: Genes for the biosynthesis of epothilones

DATE-ISSUED: March 19, 2002

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Schupp; Thomas	Mohlin			CH
Ligon; James Madison	Apex	NC		
Molnar; Istvan	Durham	NC		
Zirkle; Ross	Raleigh	NC		
Cyr; Devon Dawn	Fuquay-Varina	NC		
Gorlach; Jorn	Durham	NC		

US-CL-CURRENT: 435/189; 435/252.3, 435/252.35, 435/320.1, 536/23.1, 536/23.2, 536/23.7

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	KMC	Draw Desc
<a href="#">Image</a>											

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14. Document ID: US 6358712 B1

L7: Entry 14 of 28

File: USPT

Mar 19, 2002

US-PAT-NO: 6358712

DOCUMENT-IDENTIFIER: US 6358712 B1

TITLE: Ordered gene assembly

DATE-ISSUED: March 19, 2002

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Jarrell; Kevin A.	Lincoln	MA		
Coljee; Vincent W.	Cambridge	MA		
Donahue; William	Quincy	MA		
Mikheeva; Svetlana	Allston	MA		

US-CL-CURRENT: 435/91.1; 435/6, 435/91.2, 435/91.3, 435/91.52, 536/23.1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	KMC	Draw Desc
<a href="#">Image</a>											

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 15. Document ID: US 6355459 B1

L7: Entry 15 of 28

File: USPT

Mar 12, 2002

US-PAT-NO: 6355459

DOCUMENT-IDENTIFIER: US 6355459 B1

TITLE: Genes for the biosynthesis of epothilones

DATE-ISSUED: March 12, 2002

## INVENTOR- INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Schupp; Thomas	Mohlin			CH
Ligon; James Madison	Apex	NC		
Molnar; Istvan	Durham	NC		
Zirkle; Ross	Raleigh	NC		
Cyr; Devon Dawn	Fuquay-Varina	NC		
Gorlach; Jorn	Durham	NC		

US-CL-CURRENT: 435/183; 435/189, 435/193, 435/232, 435/252.3, 435/252.35, 435/320.1,  
536/23.2

<a href="#">Full</a>	<a href="#">Title</a>	<a href="#">Citation</a>	<a href="#">Front</a>	<a href="#">Review</a>	<a href="#">Classification</a>	<a href="#">Date</a>	<a href="#">Reference</a>	<a href="#">Sequences</a>	<a href="#">Attachments</a>	<a href="#">KMC</a>	<a href="#">Drawn Desc</a>
<a href="#">Image</a>											

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 16. Document ID: US 6355458 B1

L7: Entry 16 of 28

File: USPT

Mar 12, 2002

US-PAT-NO: 6355458

DOCUMENT-IDENTIFIER: US 6355458 B1

TITLE: Genes for the biosynthesis of epothilones

DATE-ISSUED: March 12, 2002

## INVENTOR- INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Schupp; Thomas	Mohlin			CH
Ligon; James Madison	Apex	NC		
Molnar; Istvan	Durham	NC		
Zirkle; Ross	Raleigh	NC		
Cyr; Devon Dawn	Fuquay-Varina	NC		
Gorlach; Jorn	Durham	NC		

US-CL-CURRENT: 435/183; 435/189, 435/193, 435/232, 435/252.3, 435/252.35, 435/320.1,  
530/300, 536/23.1, 536/23.2, 536/23.7

<a href="#">Full</a>	<a href="#">Title</a>	<a href="#">Citation</a>	<a href="#">Front</a>	<a href="#">Review</a>	<a href="#">Classification</a>	<a href="#">Date</a>	<a href="#">Reference</a>	<a href="#">Sequences</a>	<a href="#">Attachments</a>	<a href="#">KMC</a>	<a href="#">Drawn Desc</a>
<a href="#">Image</a>											

17. Document ID: US 6355457 B1

L7: Entry 17 of 28

File: USPT

Mar 12, 2002

US-PAT-NO: 6355457

DOCUMENT-IDENTIFIER: US 6355457 B1

TITLE: Genes for the biosynthesis of epothilones

DATE-ISSUED: March 12, 2002

## INVENTOR- INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Schupp; Thomas	Mohlin			CH
Ligon; James Madison	Apex	NC		
Molnar; Istvan	Durham	NC		
Zirkle; Ross	Raleigh	NC		
Cyr; Devon Dawn	Fuquay-Varina	NC		
Gorlach; Jorn	Durham	NC		

US-CL-CURRENT: 435/183; 435/189, 435/193, 435/195, 435/196, 435/232, 435/252.3,  
435/252.35, 435/320.1, 530/300, 536/23.1, 536/23.2, 536/23.7

<a href="#">Full</a>	<a href="#">Title</a>	<a href="#">Citation</a>	<a href="#">Front</a>	<a href="#">Review</a>	<a href="#">Classification</a>	<a href="#">Date</a>	<a href="#">Reference</a>	<a href="#">Sequences</a>	<a href="#">Attachments</a>	<a href="#">KOMC</a>	<a href="#">Draw Desc</a>
<a href="#">Image</a>											

18. Document ID: US 6346404 B1

L7: Entry 18 of 28

File: USPT

Feb 12, 2002

US-PAT-NO: 6346404

DOCUMENT-IDENTIFIER: US 6346404 B1

**\*\* See image for Certificate of Correction \*\***

TITLE: Genes for the biosynthesis of epothilones

DATE-ISSUED: February 12, 2002

## INVENTOR- INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Schupp; Thomas	Mohlin			CH
Ligon; James Madison	Apex	NC		
Molnar; Istvan	Durham	NC		
Zirkle; Ross	Raleigh	NC		
Cyr; Devon Dawn	Fuquay-Varina	NC		
Gorlach; Jorn	Durham	NC		

US-CL-CURRENT: 435/183; 435/189, 435/193, 435/232, 435/252.3, 435/252.35, 435/320.1,  
530/350, 536/23.1, 536/23.2, 536/23.7

<a href="#">Full</a>	<a href="#">Title</a>	<a href="#">Citation</a>	<a href="#">Front</a>	<a href="#">Review</a>	<a href="#">Classification</a>	<a href="#">Date</a>	<a href="#">Reference</a>	<a href="#">Sequences</a>	<a href="#">Attachments</a>	<a href="#">KOMC</a>	<a href="#">Draw Desc</a>
<a href="#">Image</a>											

19. Document ID: US 6143561 A

L7: Entry 19 of 28

File: USPT

Nov 7, 2000

US-PAT-NO: 6143561

DOCUMENT-IDENTIFIER: US 6143561 A

TITLE: DNA encoding plastid pyruvate dehydrogenase and branched chain oxoacid dehydrogenase components

DATE-ISSUED: November 7, 2000

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Randall; Douglas D.	Columbia	MO		
Mooney; Brian P.	Columbia	MO		
Johnston; Mark L.	Gales Ferry	CT		
Luethy; Michael H.	Old Mystic	CT		
Miernyk; Jan A.	Peoria	IL		

US-CL-CURRENT: 435/419; 435/252.3, 435/320.1, 536/23.2, 536/23.6

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	KM/C	Draw. Desc
Image											

 20. Document ID: US 6121029 A

L7: Entry 20 of 28

File: USPT

Sep 19, 2000

US-PAT-NO: 6121029

DOCUMENT-IDENTIFIER: US 6121029 A

TITLE: Genes for the biosynthesis of epothilones

DATE-ISSUED: September 19, 2000

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Schupp; Thomas	Mohlin			CH
Ligon; James Madison	Apex	NC		
Molnar; Istvan	Durham	NC		
Zirkle; Ross	Raleigh	NC		
Cyr; Devon Dawn	Fuquay-Varina	NC		
Gorlach; Jorn	Durham	NC		

US-CL-CURRENT: 435/183; 435/189, 435/193, 435/232, 435/252.3, 435/252.35, 435/320.1,  
530/300, 536/23.1, 536/23.2, 536/23.7

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	KM/C	Draw. Desc
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## Search Results - Record(s) 21 through 28 of 28 returned.

 21. Document ID: US 6117670 A

L7: Entry 21 of 28

File: USPT

Sep 12, 2000

US-PAT-NO: 6117670

DOCUMENT-IDENTIFIER: US 6117670 A

TITLE: Pyrrolnitrin biosynthesis genes and uses thereof

DATE-ISSUED: September 12, 2000

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ligon; James Madison	Apex	NC		
Hill; Dwight Steven	Cary	NC		
Lam; Stephen Ting	Raleigh	NC		
Hammer; Philip Eugene	Cary	NC		
van Pee; Karl-Heinz	Bannowitz			DE
Kirner; Sabine	Puchheim			DE
Young; Thomas R.	Vero Beach	FL		

US-CL-CURRENT: 435/252.33; 435/189, 435/232, 435/252.3, 435/320.1, 536/23.1, 536/23.2,  
536/23.7

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMC	Drawn Desc
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 22. Document ID: US 5817502 A

L7: Entry 22 of 28

File: USPT

Oct 6, 1998

US-PAT-NO: 5817502

DOCUMENT-IDENTIFIER: US 5817502 A

TITLE: Genes for the synthesis of pyrrolnitrin

DATE-ISSUED: October 6, 1998

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ligon; James M.	Apex	NC		
Hill; Dwight Steven	Cary	NC		
Lam; Stephen Ting	Raleigh	NC		
Hammer; Philip E.	Cary	NC		
van Pee; Karl-Heinz	Bannowitz			DE
Kirner; Sabine	Puchheim			DE

US-CL-CURRENT: 435/252.34, 435/117, 435/252.3, 435/252.33, 435/320.1, 435/69.1,  
435/71.1, 536/23.2, 536/23.7

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KUMC	Draw Desc
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23. Document ID: US 5723759 A

L7: Entry 23 of 28

File: USPT

Mar 3, 1998

US-PAT-NO: 5723759

DOCUMENT-IDENTIFIER: US 5723759 A

TITLE: Pyrrolnitrin biosynthesis genes

DATE-ISSUED: March 3, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ligon; James M.	Basel			CH
Hill; Dwight Steven	Cary	NC		
Ryals; John Andrew	Durham	NC		
Lam; Stephen Ting	Raleigh	NC		
Hammer; Philip E.	Cary	NC		

US-CL-CURRENT: 800/301, 435/117, 435/252.3, 435/320.1, 435/69.1, 435/70.1, 536/23.2,  
536/23.7

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	KUMC	Draw Desc
<a href="#">Image</a>											

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24. Document ID: US 5698425 A

L7: Entry 24 of 28

File: USPT

Dec 16, 1997

US-PAT-NO: 5698425

DOCUMENT-IDENTIFIER: US 5698425 A

TITLE: Method of protecting plants by transformation with genes for the synthesis of antipathogenic substances

DATE-ISSUED: December 16, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ligon; James M.	Basel			CH
Schupp; Thomas	Mohlin			CH
Beck; James Joseph	Cary	NC		
Hill; Dwight Steven	Cary	NC		
Ryals; John Andrew	Durham	NC		
Lam; Stephen Ting	Raleigh	NC		
Hammer; Philip E.	Cary	NC		
Uknes; Scott Joseph	Apex	NC		

US-CL-CURRENT: 800/279; 435/117, 435/418, 435/419, 435/69.1, 435/70.1

□ 25. Document ID: US 5679560 A

L7: Entry 25 of 28

File: USPT

Oct 21, 1997.

US-PAT-NO: 5679560

DOCUMENT - IDENTIFIER: US 5679560 A

TITLE: Genes for the synthesis of antipathogenic substances

DATE-ISSUED: October 21, 1997

**INVENTOR - INFORMATION:**

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ligon; James M.	Apex	NC		
Hill; Dwight Steven	Cary	NC		
Lam; Stephen Ting	Raleigh	NC		
Hammer; Philip E.	Cary	NC		

US-CL-CURRENT: 435/183; 435/253.3; 435/41

Full Title Citation Front Review Classification Date Reference Sequences Attachments KMC Draw Desc

□ 26. Document ID: US 5662898 A

L7: Entry 26 of 28

File: USPT

Sep 2, 1997

US-PAT-NR: 5662898

03-FAT-N0. 5662898  
DOCUMENT-IDENTIFIER: US 5662898 A

\*\* See image for Certificate of Correction. A

TITLE: Genes for the synthesis of antimicrobial peptides

DATE ISSUED: September 3, 1957

#### INVENTOR INFORMATION

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ligon; James M.	Basel			CH
Schupp; Thomas	Mohlin			CH
Beck; James Joseph	Cary	NC		
Hill; Dwight Steven	Cary	NC		
Ryals; John Andrew	Durham	NC		
Gaffney; Thomas Deane	Chapel Hill	NC		
Lam; Stephen Ting	Raleigh	NC		
Hammer; Philip E.	Cary	NC		
Uknes; Scott Joseph	Apex	NC		

US-CL-CURRENT: 424/93.2; 435/252.3

<a href="#">Full</a>	<a href="#">Title</a>	<a href="#">Citation</a>	<a href="#">Front</a>	<a href="#">Review</a>	<a href="#">Classification</a>	<a href="#">Date</a>	<a href="#">Reference</a>	<a href="#">Sequences</a>	<a href="#">Attachments</a>	<a href="#">KMC</a>	<a href="#">Draw Desc</a>
<a href="#">Image</a>											

27. Document ID: US 5643774 A

L7: Entry 27 of 28

File: USPT

Jul 1, 1997

US-PAT-NO: 5643774

DOCUMENT-IDENTIFIER: US 5643774 A

\*\* See image for Certificate of Correction \*\*

TITLE: Genes for the synthesis of antipathogenic substance

DATE-ISSUED: July 1, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ligon; James M.	Basel			CH
Schupp; Thomas	Mohlin			CH
Beck; James Joseph	Cary	NC		
Hill; Dwight Steven	Cary	NC		
Ryals; John Andrew	Durham	NC		
Gaffney; Thomas Deane	Chapel Hill	NC		
Lam; Stephen Ting	Raleigh	NC		
Hammer; Philip E.	Cary	NC		
Uknes; Scott Joseph	Apex	NC		

US-CL-CURRENT: 435/183; 435/69.1

<a href="#">Full</a>	<a href="#">Title</a>	<a href="#">Citation</a>	<a href="#">Front</a>	<a href="#">Review</a>	<a href="#">Classification</a>	<a href="#">Date</a>	<a href="#">Reference</a>	<a href="#">Sequences</a>	<a href="#">Attachments</a>	<a href="#">KMC</a>	<a href="#">Draw Desc</a>
<a href="#">Image</a>											

28. Document ID: US 5639949 A

L7: Entry 28 of 28

File: USPT

Jun 17, 1997

US-PAT-NO: 5639949

DOCUMENT-IDENTIFIER: US 5639949 A

TITLE: Genes for the synthesis of antipathogenic substances

DATE-ISSUED: June 17, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ligon; James M.	Basel			CH
Hill; Dwight Steven	Cary	NC		
Ryals; John Andrew	Durham	NC		
Lam; Stephen Ting	Raleigh	NC		
Hammer; Philip E.	Cary	NC		

US-CL-CURRENT: 800/301; 435/117, 435/252.33, 435/252.34, 435/320.1, 435/69.1,  
435/71.1, 536/23.2, 536/23.7

Terms	Documents
L6 and ATP\$4	28

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